

small air forces observer

vol. 15 no. 3 (59)
July 1991

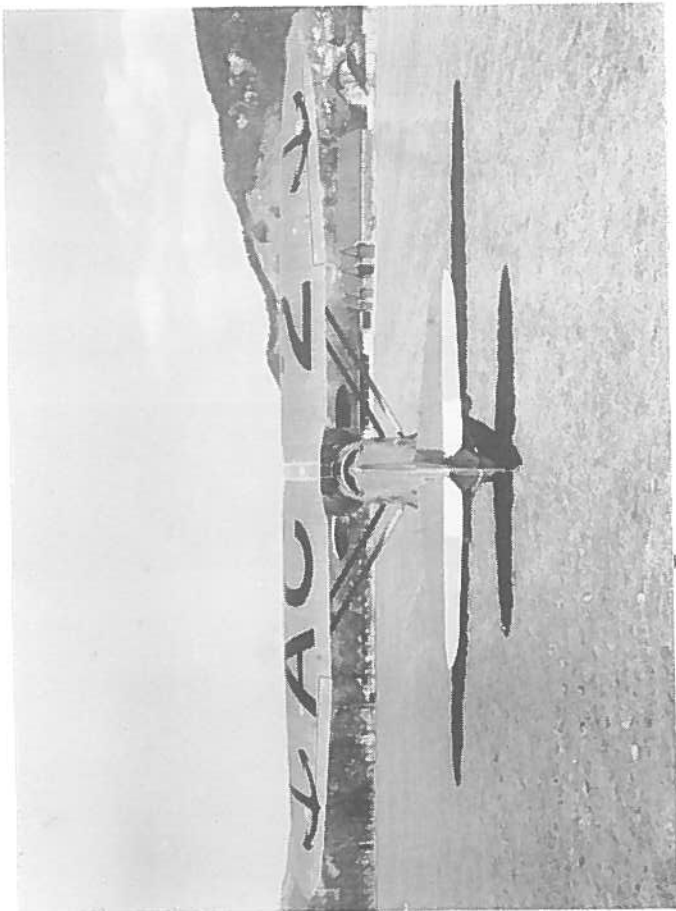
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ARGENTINE DEWOITINE
BELGIUM: THE PHONY WAR
SUPER FRELON
FIRST "KILLS" OF WWII
ESTONIAN DH-9
KHMER AIR FORCE EMBLEMS

vol. 15 no. 3 (59)

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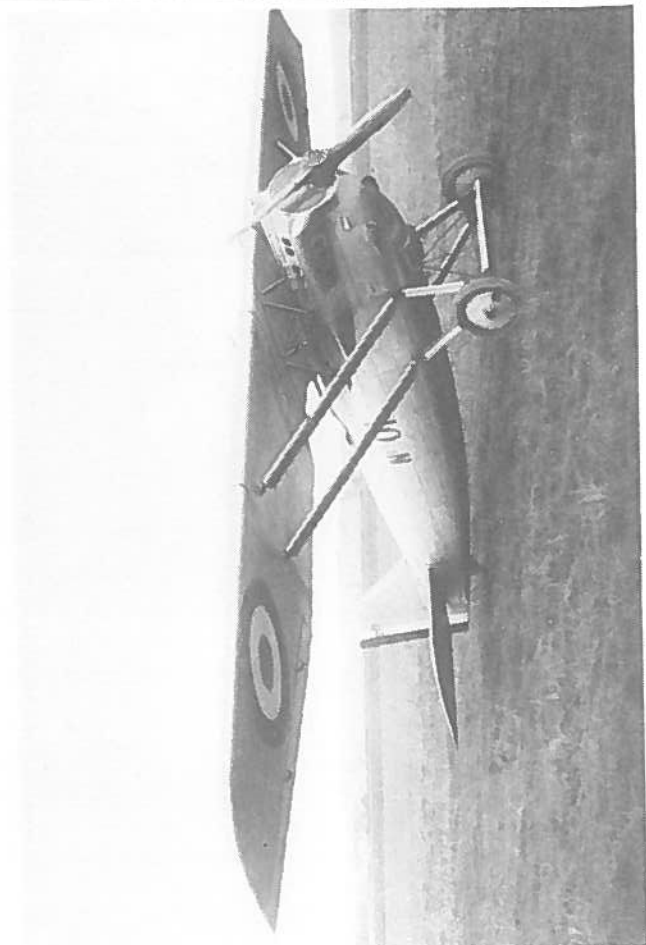


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SMALL AIR FORCES OBSERVER

The Newsletter of the Small Air Forces Clearing House

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SAFO EDITORIAL POLICY: The purpose of the SAFCH is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching the history of aviation on all aspects of aviation, both military and civil, from all periods of time, and for all the smaller countries. In return for this support, members are asked to submit occasional progress reports for publication in the SAFO. While the final results should appear in the most prestigious publication possible, it is requested that the SAFCH be mentioned (with address) in the article and that SAFO be afforded the opportunity of reprinting the material.

SUBSCRIPTION RATE: Subscription to the current volume of the SAFO is US \$9.00 for 4 issues per year in the USA and \$10.00 elsewhere via surface mail. For air mail delivery, add \$8.00 for Europe and Latin America or \$11.00 for Asia, African, and Australia. Payment should be made in cash, by International Money Order, or by a check from a bank with a subsidiary in the US. (There's a \$25 charge to cash a check from a bank without a US subsidiary.) New subscriptions begin with all issues of the volume current at the time payment is received; if you desire otherwise, please specify with your payment which issues are desired. Send remittance to Jim Sanders, 27965 Berwick Dr., Carmel, CA 93923 USA. You can also have your bank transfer money directly to my bank: Coast Federal, Los Angeles, 3220-7021-3; credit to James V. Sanders, Account #03105350.

BACK ISSUES: Either Back issues or Xerox copies of out-of-print issues are available for all issues of the SAFO published. For a list of back issues and their costs, see the "SAFCH Sales Service" sheet in this issue. For a list of all issues and their content, send two 1st class stamps (or 2 IRCs) to the editorial office.

SPONSORSHIP PROGRAM: To keep the SAFCH truly international, our Sponsorship Program allows persons who can not obtain US currency to receive the SAFO. Any SAFCH member interested in sponsoring a SAFO subscription for a person in Eastern Europe (or other country where it is impossible or difficult to obtain US currency) should write to the editorial office for a list of persons seeking sponsors. If you would like to receive the SAFO but can not obtain US currency, a list of SAFCH members looking for someone to sponsor is also available from the editorial office.

INFORMATION FOR AUTHORS: Manuscripts may be submitted in any form; authors whose first language is not English may submit a rough translation of the text and the editorial office will put it into good English. Authors using a computer should send the manuscript on disc. Photo should be black and white prints although color prints can be used. If you want any prints returned and if you do not want them to be cut, please, mark "Return" and "Do not crop" on the back of the print. All art work must be ready for printing. It is best to plan for the art to be reduced to 75% in printing and the finished drawing should fit into the 7.5 inch by 10 inch working area of the final page. Art work that does not fit this requirement will have to be cut and pasted to fit; no problem, but things might not look exactly as you want them to look. All work for the SAFO is voluntary and no payment can be made for published material.

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SMALL AIR FORCES OBSERVER (USPS 439-450) is published quarterly for \$9.00 per year by the Small Air Forces Clearing House, 27965 Berwick Dr., Carmel, CA 93923. Second class postage paid at Carmel Valley, CA 93924. **POSTMASTER:** send address changes to Small Air Forces Clearing House 27965 Berwick Dr., Carmel, CA 93923.

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LOST MEMBERS: Anyone knowing the whereabouts of the following 'lost' SAFCH members please inform the editorial office (last known address included): Bruno Dauzie, 1 rue des M. de Chateaubriand, 94490 Ormesson, France. Alain La Pierre, PO Box 2102 2102A, Les Delicias, Maracay, Venezuela. Michael Parr, #124 101 Tabor Blvd., Prince George, B.C. Canada V2M 6Y1. Ron V. Ferreyra, PO Box 1612, Chula Vista, CA., Richard Harrison, "Halcyon", RD 3, Box 3639A. Stroudsburg, PA.

RESULTS OF THE 1991 SAFCH KIT SURVEY: Thirty-eight members nominated 236 aircraft. I arbitrarily gave 9 point to first place, 7 to second, 5 to third, and one point for additional aircraft mentioned. The top twenty (with points): 1st Fokker C-V (61). 2nd.. IAR-80 (58). 3rd Potez 25 (38). 4th PWS-10 (37). 5th Breguet 19 (36). 6th FFVS J-22 (35). 7th Polikarpov I-15 (34). 8th Fokker G-1 (33). 9th VL Myrsky (29) & Vultee BT-13 (29). 11th PZL P-7a (26). 12th IMAM Ro-37 (22). 13th Fiat CR-20 (21). 14th Wilbault 72 (20). 15th Nieuport-Delage 29 (18). 16th Dewoitine D-27, Hover MF-11, & Junker W-34 (16). 19th SAAB 18 & Spad 51 (16). The Fokker C.V and IAR-80 are so close that it is virtually a tie, with all other aircraft bunched together far behind. While any of these aircraft would make a wonderful kit, I think it is worthwhile discussing the first two with possible producers.

It is interesting to note that several of our top choices appeared as kits after the survey started: PZW has released an injection-molded PZL P-7a, Blue Rider has a Fiat CR-20, and Airmodel has advertised the Fokker C-Ve as a vacuform. I haven't seen the Airmodel kit, so I can't comment on how it might influence the negotiations with a producer.

Thanks to everyone who participated in this survey. I am a little disappointed by the low number of members who responded, this is going to make negotiations difficult. But, I am impressed by the final list. What great kits each one of these would make.

COVER COMMENTS: This Argentine Dewoitine D-21C1 serves to welcome back an old friend. Jorge Nunez's article on the puffy pugilist of the Pampas begins on page 71.

TAIL PIECE: SAFCH member Joe Francesco sent these photos of the Anbo IV to complement our article on the Lithuanian Air Force that appeared in SAFO #56. I wonder how long it will be before we see MiGs these markings?

STOP THE PRESSES: Dan Hagedorn's book, **REPUBLIC P-47: THE FINAL CHAPTER - LATIN AMERICAN AIR FORCES SERVICE**, is scheduled for publication this Fall. The book, consisting of 64 pages with 128 photos and 8 pages of color, will retail at \$14.95 plus postage. The publisher is offering SAFO readers a special pre-publication price of \$13.30 including postage. Payment, by cash or Visa/Mastercard, should be sent to: Phalanx Publishing Co., 1051 Marie Ave. W., St. Paul, MN 55118. Payment must be received before the book is released in the Fall, so reserve your copy immediately. This offer does not apply to non-USA members.

AUSTRALIA

NEWS AND VIEWS (IPMS NEW SOUTH WALES, PO Box 637, Broadway, NSW 2007; 4 issues A\$25.00 surface or A\$30.00 air mail).

1/91 (28 pages) "RAAF Sabre" 12 pages including 3 photos, 13 side-view drawings, and 4 pages of detail drawings from maintenance manual. "RAAF Sea-Boots" 2 pages of 6 side-view drawings (Cirrus Moth, Gypsy Moth (2), Avro 504, Fairey IIID, & Supermarine Seagull III). "Be-2 Family" 4 pages including 6 side-view drawings of RAAF machines. "Kittyhawk" Description of different versions with scale drawings (D, E, F, M, & N) and 3 side-view drawings of RAAF Kittyhawks. "AFC Grab Bag" one page of 4 side-view drawings (Camel, Bristol Scout, Avro 504J, & 504K). "RAAF Beauforts" one page of 3 side-view drawings. "RAAF Vengeances" one page of 3 side-view drawings. "RAAF 1921 to 1991" 2 pages of 6 side-view drawings (Reliant, Norseman, Dragon, Bulldog, DH-9A, & Wapiti).

AUSTRIA

OFH NACHRICHTEN (Oesterreichische Flugzug Historiker, Kannwegasse 1/15, A-1150, Wien).

1/91 (32 pages) "Oasenflug 1937" 5 pages including table of aircraft entered, map of race, and photo & side-view drawing of Austrian Bf-108b 'OE-DIX'. "Die Grossflugboote der KUK Marine" 8 pages including 3 photos and 1/72-scale plan-view drawing of Grossflugboot G.2.

BELGIUM

KIT (IPMS Belgium, Te Couwelaarlei 103 bus 21, B-1200 Deurne/Antwerp; 4 issues for US\$ 13.00, add \$3.00 for airmail, no personal checks accepted). One subscription is available from SAFCH \$10.00.

#80 Winter 1990 (26 pages) "Alpha Jet Solo Display" 5 pages including one color photo, 3 b&w photos, and 4-view 1/72-scale drawings. "The Fairey Firefly of the Belgian Military Aviation" 18 pages including 13 photos, 6 color side-view drawings, 4 pages of 1/72-scale drawings, and 2 pages of 1/48-scale drawings. "Alouette II Update" one page including 2 photos. "The Belgian Military Aviation during the Phony War" one page. Three-page English summary.

#81 Spring 1991 (34 pages) "The grey C-130s of the Belgian Air Force" 16 pages including 3 color photos, 8 b&w photos, 11 pages of drawings from manual, "F-84G Thunderbolt" 2 pages with 2 photos and 1/72-scale side-view drawings. "Alouette Corrections" one page. "Klemm L-25" 3 pages including 1/50-scale 3-view drawings. "The Belgium Military Aviation during the Phony War" 2 pages. "Mozambique MiG-17F" side-view drawing. Two-page English summary.

BRAZIL

EM ESCALA (IPMS Brazil, Rua Arquias Cordeiro, 316 S/502, CEP 20770, Meier, RJ. Subscription is \$7.00, but they prefer kits or accessories. Send to Antonio Pereira Linhares at the above address.)

1/91 (24 pages) "The P-36 in FAB Service" one page including list of codes/serials and 2-view drawing. "1st/14th Aviation group - FAB - New Painting Schemes on F-5E" 4 pages including 7 photos and 3 side-view drawings.

CANADA

RANDOM THOUGHTS (IPMS Canada, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for US \$16.00 in US \$18.00 elsewhere).

21/3 (24 pages) "Canada's racing Spitfire" 2 pages including one side-view drawing. "Modeling the Spitfire" is actually four articles (8 pages, 11 photos of models, and one side-view drawing) on modeling Canadian Spitfires. "Iraqi Aircraft" a reprint of the SAFO article with some nice words about the SAFCH. "Grey Thunder: Upgraded Sea Kings for the Gulf War" a 2-page photo essay (4 photos) of modifications made to Canadian aircraft.

DENMARK

NYT (IPMS Denmark, c/o Bjorn Jensen, Rosenvaegs Alle 6, 2100 Kobenhavn 0; 4 issues for 90 Dkr surface, 100 Dkr airmail).

#51 (30 pages) "Aerospatiale SA.550C2 Fennec in Danish Service" one page including color print. "Heinkel He-115N" 3 pages including 4 side-view drawings (Norway, Finland, & UK). "Aerospatiale AS.15TT" one page with color information for French missile.

ENGLAND

IPMS MAGAZINE (Neil Robertson, 'The Price of Wales', Sheffield Road, Hoyland Common, Nr. Barnsley, S74 0DQ, 6 issues for £12.00. US subscription agent: Wise Owl Publications, 4314 West 238th St., Torrance, CA 90505; \$22.00)

6/90 (24 pages) "Iraqi Aircraft Camouflage Schemes" a 5-page reprint of SAFO article. "Single-Engine Night Fighters of WWII" 2 pages with 7 side-view drawings. "Super Corsair: The Goodyear F2G" 2-page conversion article with 2 side-view drawings.

2/91 (24 pages) "RAF Harrier GR5" 3 pages on modeling including 4 photos. "Bell's Twin Two-Twelve" 3 pages including 6 side-view drawings (Singapore, Canada, Brunei, & Argentina). "Building an All-Weather Sabre" 5 pages on modeling the F-86K including 9 photos. "Desert Storm - Modeling Update" 5 pages including 14 photo of RAF aircraft.

PLASTIC KIT CONSTRUCTOR (PAMAG (Publications) Ltd., Unit 308, J.C. Albyn Complex, Burton Rd., Sheffield S3 8BZ; 4 issues £ 17. In USA: J.J. Daileda, 4314 West 238th St., Torrance, CA 90505; 4 issues \$18.00).

#27 (24 pages) Nothing of specific small-air-force importance, but the best source for kit reviews available today. Of special interest are reviews of 1/72-scale vacuform kits of the Polikarpov I-3 and ANT 5 aka I-4 from Russia.

FINLAND

MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, add \$1.00 for airmail and \$1.50 for cashing personal check).

4/90 (16 pages) "BAe Hawk Mk-51" 12 pages including 22 photos and 1/72-scale & 1/48 scale 3-view drawings of Finnish aircraft. "Do-27" review of Huma kit including 3 photos of Swedish aircraft.

5/90 (16 pages) "Piasecki Vertol H-21" 6 pages including 10 photos (Canada, West Germany, & Sweden). "Finnish Bf-109G-6" 2-page construction article with side- and top-view drawing of 'MT-466'. 1/91 (16 pages) "Suomen Laivaston Ohjusvenet" 5 pages including 5 photos and 1/350- & 1/700-scale drawings of four classes of Finnish ships. "HKP-1: Vertol 44A/B" 4 pages including 16 photos of

Swedish aircraft. "Neman R-10" 3 pages including 12 photos.

FRANCE

LA VITRINE DU MAQUETTISTE (IPMS France, PB 149, 75961 Paris, Cedex 20, PB 149, 75961 Paris Cedex 20; 4 issues 150 FF).

#40 (44 pages) Color photo of Israeli Super Mystere '096'. "RSAAF Tornado in 1/72 Scale" 3-page modeling article with 6 photos. "Top Gun TA-4J in 1/72 Scale" 4-page modeling article with 5 photos and 3-view drawing of color scheme. "Abu Dhabi Mirage 2000 in 1/72 Scale" 3-page modeling article with 7 photos. "Spanish Tupolev SB-2 in 1/48 Scale" 4-page modeling article with 5 photos. "Polish Yak-23 in 1/72 Scale" one-page modeling article with 2 photos. "Thai T-6G in 1/72 Scale. 2-page modeling article with one photo.

GERMANY

MITTEILUNGEN (IPMS Germany, Bergengruenstrass 5-7, D-1000 Berlin 38; 12 issues DM 60.00 Europe, DM 65.00 USA, DM 70.00 Japan, DM 75.00 Australia).

2/91 (32 pages) "Bulgarian He-60" one page including one photo.

3/91 (32 pages) "Romanian Bf-110" 2 pages including 2 photos.

GREECE

NEA (IPMS-Greece, PO Box 79167, 175 05 Amfithea, Athens)

1/91 (16 pages) Color photo: Greek T-37. "Post-War Greek Spitfires: Part 1" including 4 photos, 2 side-view drawings, and table of Mk-V & Mk-IX. "DH-4 of the Greek Naval Air Service" 2 pages including 2 photos and 2-view drawing.

MODELLING (Sotiris Constandinidis, 18 Vlahothanasi Str., Athens 11744)

Dec 90 (100 pages) Color photos: Greek F4E, RF-4E, Mirage 2000, F-84F, T-33, & F-5A. "Me-262" 10-page modeling article 21 color photos and 4 color side-view drawings. "Beech C-45" 2-page modeling article including 3 color photos. "Hawker Sea Fury" 3-page modeling article with 4 color photos and one color side-view drawing.

ITALY

AEROFAN (Gioglio Apostolo, via Ampere 49, 20131 Milano).

#55/56 (68 pages) "Combat Aircraft Competition 1938/39" 11 pages including 7 photos and 6 small 3-view drawings. "A Torpedo-Bomber from Cantiere Navale Triestino" 5 pages including 5 photos and scale drawing of CANT.6ter. "SIAI S-62 in Soviet Service" 5 pages including 11 photos. "Fiat G-12T in Hungary" one page with 3 photos of aircraft in Hungarian markings. "Aerfer Sagittario 2" 11 pages including 6 photos and 5 drawings.

[Editor's Note: Aerofan is the most recent of a number of long-established aviation magazines to stop publishing in the last few months. Aerofan's editor may be voicing a common feeling when he writes, "I am feeling that most aviation enthusiasts prefer to read about modern machines and do not have an historical interest". If you disagree, you might want to write some words of encouragement to Gioglio at the address given above.]

JP-4 (JP-4, CP 1550, 50100 Firenze; L 27.000 Europe, L 30.000 elsewhere).

3/91 (98 pages) Color photos: German (sic) MiG-29 '29 + 20', Bulgarian MiG-29 '20' (b&w), Israeli Do-27 '037', and South Korean Sikorsky UH-60P. "Mirage ed F-16" 13 pages on the Venezuelan AF 23 color photos (F-16, Mirage III, G-222, Queen Air 80, VF-5A, T-2D, Super Puma, OV-10E, Tucano, & VT-34). "46 Helldiver per la Marina" 6 pages on Helldiver for Italian Navy including 6 photos.

4/91 (98 pages) Color photos: German Hansa Jet '16 + 27', Dutch Navy King Air 200 'PH-SBK', Venezuelan Mirage 50EV '0155', and Dubai PC-6B '921'. "Italian Fighters over Palestine" 7 pages including 14 photos.

5/91 (98 pages) Color photos: Dutch F-16 'J-205'. "Polemiki Aeroporia" 20 pages on the Greek Air Force including 28 color photos (Mirage 2000, F-16D, F/TF-104G, Mirage F.1, RF-4E, F-5A/B, A-7H, C-130H, UH-16B, RF-84F, T-33A, T-41, CL-215, Ag-Cat & Dromader (with roundels), Gulfstream, YS-11, & AB-205). [Editor's note: An interesting modeling project would be the F-5B '609' carrying both Jordanian and Greek roundels.] "I Veltro dell'Asso di Cuori" 6 pages including 5 photos of Macchi C-205V in German markings.

POLAND

AERO TECHNIKA LOTNICZA (ASR. POCZT. 8, 00-930 WARSZAWA 71).

10-12/90 (44 pages) "Lublin R-XIII" 20 pages including 25 photos, color painting, color 4-view drawing, 3 pages of 1/48-scale drawings (R-XIIID & R-XIIIBis hydro), and 30 1/72-scale side-view drawings of variants. "Luftwaffe" 4 pages including 4 photos and 6 color side-view drawings (UH-1D, F-4F, F-104G, Tornado IDS, Canberra, & VFW-

614). "PWS 26" one page of sketches of construction details. "Grumman Martlet in Great Britain: Part 1" 3 pages including 6 photos. "17 Wrzesnia" one page including one photo and a 3-view drawing of PWS-26 '81-261'. "Ewakuacja" (and you thought Polish was hard to read!) 3 pages including 12 photos of aircraft evacuated from Poland in 1939. "SH-60B Seahawk" one page with 7 photos of details. "Su-22" one page with 8 photos of details. [Editor's note: Because of the low quality of the photos printed in the magazine, the publisher included a 6 page supplement where the photos are repeated to a much higher quality.]

1/91 (44 pages) "A-4 Skyhawk" 13 pages including 8 photos, 4 pages of 1/72-scale drawings (A-4E & -M), one page with 12 side-view drawings of variants, 2-page cutaway drawings, and 4 color profiles (Singapore & Indonesia). "Royal Australian Air Force" 4 page pull-out including 3 photos, table, and 6 color side-views on glossy paper. "CBA-123 Vector" 2 pages including scale 3-view drawing. "Grumman Martlet: Part II" 2 pages including 3 photos. "PZL P.11c" 2-page photo study (11 photos) of construction details taken during recent reconstruction. "PWS-26 in Romania" one page with one photo and 3-view drawing. [Editor's note: When are we going to get a kit of this beautiful aircraft?] "Los in Romania" one page including 3 photos.

ROMANIA

MODELISM INTERNATIONAL (CP 33-126, Bucharest, ROMANIA; 6 issues for US \$24 in any convertible currency).

1/91 (48 pages) "Hansa-Brandenburg" 3 pages including 3 photos and cut-a-way drawing. "Me-262"

6 pages including 5 photos, 4 pages of scale drawings, and 50 cm by 70 cm color painting. "AH-64 Apache" 2 pages with 1/75-scale drawings.

USA

WWI AERO (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$25.00 USA or \$30 overseas).

#132 (122) pages "100: Lillienthal" 5 pages including 11 photos and 6 drawings. "The Wright Stuff II" 14 pages including 14 photos and 2 scale drawings of 1905 Flyer. "Burgess Pt. VII" 13 pages including 27 photos and 6 scale drawings of Dunne tailless aircraft. "Colors & Markings" 7 pages on French Stilleform camouflage. "Models" 16 pages of full-page drawings of 16 models of early aircraft built and tested by Eiffel.

SKYWAYS (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$25.00 USA or \$30.00 overseas).

#15 (84 pages) "Edo Commercial Seaplane Floats" 13 pages including 13 photos and 4 pages of drawings. "Chilton D.W.1" 7 pages including 9 photos and 3-view drawing. "Fokker F.XX" 4 pages including one photo and 3-view drawing. "Log of the Friesley Falcon: Part II" 9 pages including 9 photos. "Consolidated Y1P-25" 6 pages including 8 photos.

PRI-FLY (IPMS Washington DC, c/o Carol Fleckenstein, 13816 Choptank Ct., Centerville, VA 22020; 4 issues \$8.00 for US, \$9.00 all others).

#78 (16 pages) Nothing on the small air forces, but a nice article on "Custom Dry Transfers"; an expensive process at about \$100 for 2 sheets each of 8 colors plus equipment, or about \$30 a sheet if made commercially, but worth looking into.

MILITARIA, Vol. 1 No.1. To be published quarterly, the premiere issue covers Polish Halberstadt CL II and Hannover CL II & III; modern PAF squadron insignia with color photos and drawings, Polish Spitfires; book reviews, etc.

TECHNIKA WOJSKOWA, cover all types of weapons and arms, but there is nothing on the small air forces in the first issue.

Wojciech Butrycz (SAFCH #981), ul. Facimiech 12A m.25, 30 667 Krakow, Poland.

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ZLINEK. I would like to recommend to SAFO reader a new Czech magazine for plastic modelers; ZLINEK. Four issues are out and all of them are very interesting.

#1 "MiG-21MF" 11 pages, 9 photos, 4 camouflage schemes (USSR, Czech), scale drawings, and sketches of ejection seat and instrument panel.

#2 "Su-25K" 13 pages, 9 photos, 6 camouflage schemes (USSR, Czech), and scale drawings.

#3 "Mi-8/17" 13 pages, 10 photos, 6 camouflage schemes (USSR, Czech), and scale drawings. "La-15" a one-page scale drawing with sketch of instrument panel.

4 "Su-24" 9 pages, 12 photos, one camouflage

scheme (USSR), and scale drawing. Sketches of K-36D and K-37 ejection seats, "Airacobra in USSR" 4 camouflage schemes of WW2 aces. "P-47 of Lanowski, Polish Ace" 2 pages including one camouflage scheme. "Spitfire details" 3 pages of sketches.

The main article in #5 will be the MiG-25, and next should be the Su-7/22. This magazine will be available from the SAFCH Sales Service or directly from:

Daniel Petz (SAFCH #623), Na Ladvi 21, 182 00 Praha 8, Czechoslovakia.

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"Very little comment on current events, this time ... although, seeing the Bangladesh MiG-21 in SAFO #48, I might mention a photo in L'EXPRESS (International) No.2079, 16 May 1991. It is an aerial view, not very clear, of a portion of Chittagong Air Base, in eastern Bangladesh, following the devastation of the latest huge cyclone. Jumbled together in the floodwaters can be seen six MiG-19s. Four two-seaters appear white or pale grey, with roundels on both wings & fuselage, as well as fin flash. At least one carries large numbers on the nose, about twice the size shown on the MiG-21 drawing. The two single-seaters are camouflaged in what looks like two-tone grey, also with the national markings in all positions, and smaller-size numbers on the nose. The photo is not sharp enough to provide further details; and it is not known how many of these aircraft have been salvaged, though

there seems to be no major structural damage. "Regarding John MacGregor's comments on those mysterious 'Cambodian' Skyraiders (derelict), I, too, have been intrigued by these particular samples. While it was not unusual to find some aircraft operating in South-East Asian combat without any nationality markings, for reasons clandestine and otherwise(?), that striking-cobra emblem should provide a clue. I was sure I'd seen a photo of a Thai A-37 with that, or a similar, emblem on the fin, although I don't have a copy in my files. I thought this was the symbol of one of the RTAF Wings and that perhaps it had been applied to some VNAF Skyraiders (possibly transferred to, or merely operated in, the Khmer Republic) that escaped to Thailand in 1975. But if John, who seems knowledgeable about Thai aircraft and their markings, doesn't make that connection, my theory could

be way off. I need to find that published Thai photo to see if it really is the same cobra insignie. (Of course, I do have embroidered RTAF emblems showing several cobra variations.)

"As you are aware of my delvings into the somewhat offbeat, I wouldn't mind tackling a preliminary survey of small-air-force trading cards. Many hobby interests overlap in a variety of ways (I'm waiting for someone to expound on the topic of small-air-forces philately); and while not many of us collect aviation emblems, most of us do collect various pictorial references ... including trading cards? But of course!"

Ted Koppel (SAFCH #118), 3520 N. Rolling Rd., Baltimore, MD 21207-2202.

"I am the editor of **SQUADRON NEWS**, the magazine of "The Squadron", a vintage aircraft facility at North Weald airfield here in England. Intended as a club for all interested in Warbirds, we have a growing collection of airworthy aircraft including 8 Harvards, T-6G Texan, Pilatus P.2, Expeditor, TBM-3R Avenger, N3N-3, and 3 P-51D Mustangs.

"I am writing regards two of our aircraft that have served with small air forces. All that we have discover so far is the basic facts but nothing is known about color schemes or details of their service.

"North American T-6G Texan 49-3209 now registered G-DDMV. Delivered to the USAF on 10 April 1951, it served with various units including the 3545th Primary Training Squadron (PTS) at Goodfellow AFB, the 3305th PTS at Malden AFB and the 3300th PTS at Graham AFB. On 28 April 1957, it was declared surplus and disposed of to the Haiti Air Force. They gave it serial number 3209 and used it until 1983, when it was sold to an American buyer and then registered N324N. Last year it was imported to Britain and is now owned by Paul Morgan. We are specially interested in the time spent with the Haiti Air Force. We believe they had only 3 T-6Gs.

"The second machine is North American P-51D 44-72773 now registered G-SUSY. Built as a P-51D-25NA, its early history is unknown, but in 1951 it was serving with the 131th Fighter Squadron (FS) at George AFB. In 1954 it was with the 182nd FS of the Texas National Guard based at Brooks AFB. It was declared surplus on 31 May 1958 and was sold to the Nicaraguan Air Force. They gave it the serial number FAN.120 and the code GN-120. After several years service it was sold to an American buyer in 1963 and was registered N12066. Purchased by UK collector Charles Church in 1986 it was registered G-SUSY. Church was killed in a Spitfire accident in 1989 and the Mustang has now changed owners. We would like to know more about this aircraft particularly the time it spent in Nicaragua. This aircraft is also to be repainted and perhaps a Nicaraguan scheme would look better than the stock USAAF colors!"

Martin Pengelly, Lamorna, 2 Barton Close, Landrake, Cornwall, PL12 5BA, England.

[Editor's note: We've been hearing more and more

about Warbirds finished in the markings of the smaller air forces. In fact, I've already received a few photos of such. Perhaps we can start an occasionally occurring series on this subject.]

"We are interested in exchanging slides of Greek Air Force aircraft for slides of aircraft of other air forces."

Sotiris Constandinidis, c/o MODELLING, 18 Vlahothanasi St., Athens 11744, Greece.

"I would like to contact anyone who has photos of Iraqi or Iranian aircraft for sale."

Tom Hurd (SAFCH #934), 1423 North Irene, Sioux City, IA 51105.

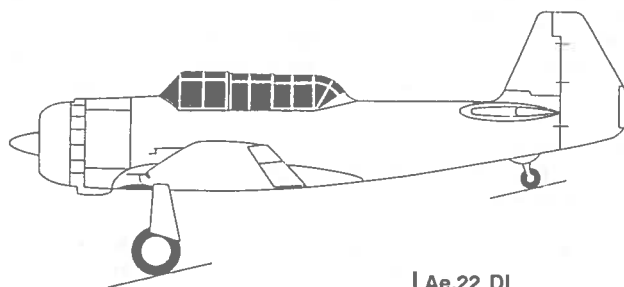
"I am looking for TBU #17 MiG-17 and #32 Il-18. I also need SCALE MODELERS INTERNATIONAL May, November, and December 1990 for articles of the Mig-21."

Don Gillmore (SAFCH #726), 9549 East Fairway Blvd, Sun Lakes, AZ 85248.

Estate Auction: Augie Blume (SAFCH #922) has graciously donated to the SAFCH two photo album he received from the estate of the late Brian Flanagan. Album #1: 176 photos, of Luftwaffe aircraft from the late 1930's. Photos are good copies from a source identified only as "Dietsel's Scrapbook of German Aircraft". All the photos appear to have been of commercial origin; some are very familiar, but many, particularly those of lesser-known types, are unfamiliar to me. Album #2: 92 photos identified as taken at "Air Show Randolph AFB" '53 and '54. This was an interesting period with F-51s and B-17s still around, but F-86s and B-57s coming on line. These albums are for sale to the highest bidder. Bids must be received at the SAFCH by 1 November 1991, and the winners will be notified immediately thereafter. Include a SASE (or IRC) if you want to be notified of a failed bid. The money

collected will go the SAFCH Sponsorship Program.

RARE KIT AUCTION: I have received from Martin T. O'Connor (SAFCH #774) a very rare and unusual 1/48-scale vacuform kit. Not only is the subject unusual, the Argentine I.Ae.22DL, but its history is fascinating. The mold was made at the request of a US modeler for his friend in the Argentine Air force. For some reason, the deal fell through and only two or three test shots were made. All this took place a number of years ago and there does not seem to have been any plan to go into production. Martin doesn't say how the kit came into his possession, but he donated it to the SAFCH in the hopes that we could find a good



I.Ae.22 DL

home for it.

This kit is nicely molded on a medium-thick sheet of white plastic 16 in. by 9 in. with great fabric-effect on the moveable surface and no panel lines befitting a wooden aircraft. There is no canopy, no instructions, and no decals. The aircraft was the subject of a long article (with 1/72-scale 4-view drawings) in the March 1983 issue of AIR CLASSICS and supposedly continued in the next issue (I don't have the second installment).

Somewhere out there must be someone you would really cherish this rare kit. Therefore, it will go to the person who submits the highest bid before 1 November 1991. And, let me know if you will need a Xerox copy of the AC article.

MODELARSKE LISTY #1: Avia B-534. Subtitled "Modeller's Pages: 1/48-Scale Drawings and Details for Aircraft Model Builders".

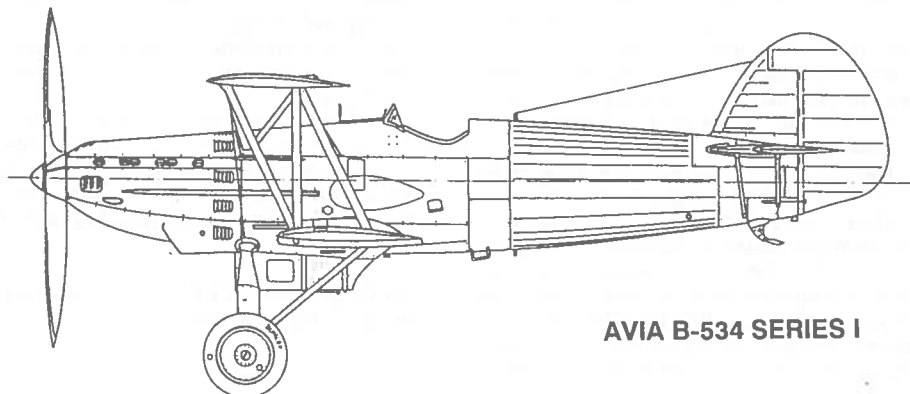
This little 10-page booklet is well conceived and attractively presented. The first page consists of a

short history of the aircraft along with a modeler-oriented description of the various "series" in Czech and English (a full translation, not one of those frustrating "summaries"). The real fun begins when you open the booklet and find 3 1/2 pages of 1/48-

scale drawings of all 4 versions of the B-534 along with modification and lots of details. No markings are given, but other source for color schemes are readily available. The drawings are superb and show the detail a modeler needs. I can imagine more than one modeler Xeroxing these drawings down to 1/72 scale and converting a couple of his KP kits of the series IV to earlier versions.

A one-sheet insert has 4 photos; one aircraft from each of the 4 series. These photos are indifferently reproduced and of not very exciting subjects.

This is the first and, I sad to report, the last of this series. The publisher has changed over to a more ambition program of Aerofax-like monographs of aircraft currently in the inventory of the Czech Air Force (see review in book section of this SAFO). The good news, is that four of the B-534 sets are available from the SAFCH Sales Service. The price of \$3.50 will be just enough (after subtracting my mailing costs) to cover the publishers SAFO subscription for one year.



AVIA B-534 SERIES I

DEWOITINE D-21 IN ARGENTINE SERVICE

Jorge Felix Nunez Padin

Starting with the D-1, which flew for the first time on 18 November 1922, Emil Dewoitine designed several fighters among them was the D-12 fitted with a 500-hp Hispano-Suiza engine. Two prototypes (D-12.01 and D-12.02) were built, but they did not arrive in time to take part in the competition for a new fighter aircraft for the French Air Force. Then Dewoitine his efforts to the development of an aircraft for the export market and thus was born the D-21. In fact, the first prototype, D-21.01, was actually the second D.12 prototype.

With this aircraft several demonstrations were performed in Europe, but with little success. The Turkish government ordered two machines for evaluation and Czechoslovakia bought three. An order for seven aircraft was received from Argentina which also bought the prototype D-21/01. Because of economic problems, Emil Dewoitine was forced to close his establishment at Chatillon-sous-Bagneaux and transfer production to Switzerland. In the meantime, Czechoslovakia produced a series of 26 D-21 under license at the Skoda workshops at Pilsen (known as the Skoda D.1). In Italy, Ansaldo produced the model AC-2 powered by the Hispano-Suiza HS-42. The Ansaldo AC-3 was a version fitted with one Gnome-Rhone Jupiter IV radial engine and the last development was the AC-4 with a 410-hp radial Fiat A.20 engine.

The Dewoitine D-21 in Argentina

The first Argentine operator of the D-21 was the Servicio Aeronautico Argentino (Argentine Army Aviation) which bought the D-21.01 prototype plus seven aircraft built at the Chatillon-sour-Bagneaux factory. These planes were powered by the 500-hp, 12-cylinder Hispano-Suiza 12Gb Type 50 engine, and were fitted with a pair of Madsen machine guns. A year later, in 1927, a follow-on order was signed for another 4 aircraft, this time the two-seat D-25. Since the Dewoitine factory was now closed, the four D-25 were built by Avions Hanriot at Carriere-sur-Seine (as were 10 additional D-21 for Turkey). During 1928 Argentina acquired the rights for the license production of the D-21. The first aircraft built by the Fabrica Militar de Aviones (FMA) at Cordoba made its first flight on 21 October 1930. The 32 D-21 built by FMA were powered by the 450-hp Lorraine-Dietrich 12EW engine. The Aviacion Naval (Argentine Naval Aviation) purchased 7 D-21C1 which were built at Thun by the Ateliers Federaux. With 51 D-21 of all version, Argentina operated the largest fleet of this small French fighter.

General Characteristics and Performance

The Dewoitine D21 was a parasol-wing, single-seat fighter of metal construction powered by a 450-hp Lorraine-Dietrich 12Eb engine, with either a two-bladed wooden Ratier propeller or a metal Levasseur-Read type. From 1931, it also used a two-blade wooden propeller made by the Fabrica Militar de Aviones.

Armament: two Vickers Class E, 7.65-mm machine guns. A 100-kg bomb could also be carried attached to a ventral hard-point, or an equivalent weight fuel tank could be carried in place of the bomb.

Dimensions: Wing span = 12.00 m; length = 7.60 m; height = 3.00 m. Wing area = 23 square meters. Maximum weight = 1485 kg; maximum load = 425 kg (including pilot, armament, oxygen equipment, and fuel).

Performance (with 425-kg load): Maximum horizontal speed = 240 km/hr; maximum speed at 3000 m = 230 km/hr; time to climb to 3000 m = 7 min; to 5000 m = 15 min.

Operational ceiling = 7500 m.

Maximum endurance at cruise speed = 2 hr and 10 min.

(All dimensions and performance data from the original handbook of the aircraft.)

The Dewoitine D-21C1 in the Argentine Navy

In the late 1920s, the Ministerio de Marina (Navy Ministry) took the first steps towards modernization of its naval aviation. The Comision Naval en Europa-CNE (Naval Mission in Europe), headquartered in London, received orders to begin studies to select aircraft for several naval duties. The leader of the evaluation team, Teniente de Navio Marcos A. Zar, was a veteran pilot of the Argentine Navy who had served during WWI. Lt. Zar visited the main factories in Europe searching for suitable aircraft for patrol, training, reconnaissance, and fighter duties. Fighter types considered were the Gourdou-Lesseeurre 32C1, Nieuport-Delage NiD-42C1, and Wibault 7C1 in France, the Avro Avenger, Hawker Heron, Armstrong Siddeley Siskin IIA, and Fairey Flycatcher in England, and the Fiat CR-20, Savoia Marchetti S-58, and Macchi M-41 in Italy. These models were designed under different concepts; for example the Fairey Flycatcher was designed for carrier use, the Macchi M-41 and Savoia S-58 were flying boats, and the Wibault 7C1 was designed for operation from land.

The orders received by Lt. Zar specified that he concentrate his evaluation on aircraft already established in service and he was to give special consideration to aircraft with wooden airframes. This latter was required since the Argentine Navy expected to operate the new fighter on floats and at that time the effects of sea-water corrosion on metal airframes was unknown. At the end of the evaluation process, the Naval Commission enthusiastically recommend the Fiat CR-20 as the most suitable type available. It had a low cost and a high-strength wooden airframe built to a high standard of craftsmanship. Also noteworthy was its performance and the use of the reliable Fiat 420 engine. In second place was the Gourdou-Lesseeurre 32C1 whose only negative feature was its complex airframe made of wood and aluminum. However, this plane was considered to be the one most suitable to receive the Hispano-Suiza 450/500-hp engine which was considered to be the future standard power plant for all new Argentine naval aircraft. Finally, the GL 32C1 had been tested on floats.

The D-21C1 Affair.

At the same time, the Dewoitine D-21 was the center of a dispute between its designer and the French authorities after its elimination from the competition for a new single-seat fighter for French military aviation. This was another reason why the Ar-

gentine Naval Mission had rejected the D-21. Among Argentine naval personnel the opinion of the D-21 was not very high. Alferéz de Navio Raul Mason Lugones, attached to the Italian fighter school at Furbara, put his opinions in a letter; "... about fighters, it is preferable not to have fighters, if we must buy the Dewoitine ..." (1). Alferéz de Navio Mason Lugones also flew many times the Ansaldo AC-3 (an Italian version of the Dewoitine fighter) which he considered little better than the Huff-Daland Petrel in service as a trainer with the Argentine Navy (2). For Mason Lugones, the best model available at the time was also the Fiat CR-20.

During 1927, the financial position of Emil Dewoitine was critical. Bankruptcy had forced him to close his factory in France. Therefore, aircraft ordered by foreign customers had to be built by Avions Hanriot. In Argentina, the Ministerio de Guerra (Army Ministry), which had recently purchased several D-21 plus the rights for series production, was lobbying the Argentine government to force the Navy to select the D-21. Despite the strong opposition of the Naval Mission in Europe, the Navy finally chose the French fighter powered by a Lorraine-Dietrich engine, a selection which was the subject of severe criticism. The initial program considered the purchase of ten aircraft for a total investment of 750,000 Argentine pesos. Four units were to be fitted with floats for use from Estacion Aeronaval Puerto Belgrano (Pto. Belgrano NAS), while the remaining six aircraft would be assigned to Estacion Aeronaval Punta Indio as standard land-based fighters. Since the D-21C1 had not been designed for float, Dewoitine offered its service to incorporate the necessary modifications.

The Navy finally adopted the D-21C1 (although it was able to resist Army pressure to adopt the Breguet XIX over the Fairey IIIF) and by April 1928 the Comision Naval de Europa was ordered to open formal negotiations with Dewoitine. Aircraft were to be purchased at a basic price of 1600 pesos each without engines; the Lorraine-Dietrich power plants were to be provided by the Argentine government. An important point considered during the negotiations was the selection of the factory; there were three options: a factory in Toulouse, France, the Ansaldo factory of Torino, Italy, and the Ateliers Federaux of Thun, Switzerland.

On June 5, 1928, at Genoa, Italy, a contract was signed by Rear Admiral Ismael Galindez, Chief of the Argentine Naval Mission

and Mr. Emil Dewoitine representing Ateliers Federaux. The document required the production of seven aircraft at a total cost of L 18,809 plus a batch of spare parts amounting to another L 3194. After flight testing, the aircraft were to be disassembled, packed in special boxes, and delivered to Genoa for sea delivery to Argentina. The contract was very specific. For example, it was stated that all duralumin sheets must be provided exclusively by either the Societe Duralumin Francais or by the Societe Dural Metalwerke-Duren. A few weeks later, on 16 July 1928, another contract was signed, this time with Vickers, for the production of twenty-eight 7.65-mm (Argentine Mauser cal.) Class E machine guns, 14 of which were to be delivered to Thun.

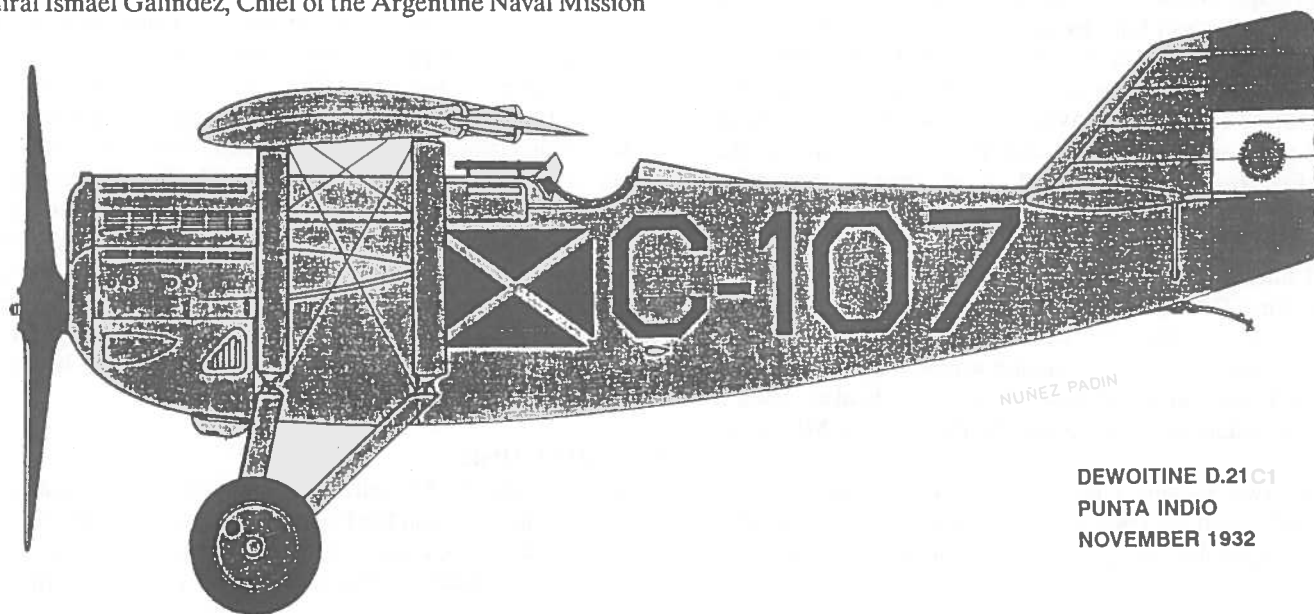
Construction & Acceptance of the D-21C1

Teniente de Fragata Mason Lugones was appointed by the Naval Mission as the Argentine representative in Switzerland to supervise the construction of the airframes as well as to accept the finished aircraft after flight testing. Suboficial Mateo Cazzasa was sent to Switzerland to acquire experience in construction and assembly procedures on the D-21C1.

The construction of the aircraft for the Argentine Navy proved to be troublesome, probably because of Ateliers Federaux's lack of experience in the production of metal structures. Often the workmanship was not satisfactory and many times, Suboficial Cazzasa rejected parts due to their low quality (3), with subsequent delays. It was not surprising that the first D-21 was ready to begin its flight trials until early 1930. These tests were conducted by the Ateliers' chief pilot. The contract specified that every airplane should perform a series of acrobatic maneuvers with a full load of 425 kgm while flying at 3000 m altitude. During a calibration test on the third aircraft in April, the propeller was damaged after a failure in the machine-gun synchronization system.

The D-21C1 in Service

Although only seven aircraft were purchased, it was decided to activate two units. Therefore, on 28 March 1930, while the aircraft were still in Switzerland, two D-21C1 (AC-6 and AC-7) were assigned to the Estacion Aeronaval Puerto Belgrano, while the remaining five, (AC-1 to AC-5) were assigned to the Estacion Aeronaval Punta Indio. Finally taking into consideration the



DEWOITINE D.21C1
PUNTA INDIO
NOVEMBER 1932

small numbers involved, the idea of converting the aircraft stationed at Puerto Belgrano to floatplanes was abandoned.

Teniente de Fragata Raul Mason Lugones was probably best qualified to become the commander of the Navy's first pursuit squadron. But, shortly after his arrival back in Argentina, he lost his life when he crashed the Savoia Marchetti S-59bis (HR-9) into Laguna Grande. Therefore, Teniente de Fragata Edgardo Bonnet was appointed as Commander of the Escaudrilla de Caza (Fighter Squadron) at Punta Indio. He remained in this position until 1933 when he transferred his command to Teniente de Fragata Julio Bacchini.

Since the Dewoitines based at Puerto Belgrano were used as advanced trainers, the Dewoitines attached to Punta Indio equipped the only operational pursuit unit in the Argentine Navy. A great percentage of the flight time was spent in the development of aerial combat tactics as well as in the practice in formation flying.

In February 1931, the Dewoitines were reserIALIZED C-101 to C107 (4). On 16 April 1931, a Navy directive was issued ordering all the D-21C1 to come under the command of the III Region Naval. Therefore, Aircraft C-106 and C-107 at Puerto Belgrano NAS were transferred to Punta Indio. Now with all seven aircraft available, the Escaudrilla de Caza was reorganized into two tactical flights. The first, 1o Seccion, included C-101 to C-103; while 2o Seccion consisted of C-104 to C-106. The seventh airplane (C-107) was maintained in storage as a reserve plane. Only aircraft assigned to the commanders of each flight were equipped with a complete set of radio communication equipment; the other airplanes carried only radio receiver sets.

During November 1931, five D-21C1 took part in the first long-distance training tour along with other naval aircraft from the Mesopotamic area (NE of Punta Indio). Two months later, the Escaudrilla de Caza was redeployed in the same area as a part of the government forces engaged in the suppression of a subversive movement in the state of Entre Rios. This was the only time the Argentine Navy D-21C1 fired its guns in anger. However, the greatest achievement in the operational career of these fighters was during November 1932. On that occasion, six aircraft (the two tactical flights) with logistic support from a Atlantic Super Universal transport (T-201) performed a memorable flight from Punta Indio to Rio Gallegos at the southernmost corner of Argentine Patagonia. The small and fragile planes flew more than 4000 km over a very hostile landscape in extreme weather conditions. During the return stage, aircraft C-104 suffered damage while landing at Comodoro Rivadavia.

The intense flying activity reduced the flight line of the Escaudrilla de Caza. By the end of 1932, all the aircraft of the second flight were unserviceable; C-104 was still not repaired, C-105 was undergoing maintenance with an estimated return by February 1933, and C-106 was lost during September. The pilot, Suboficial Blanco, bailed out over Punta Indio. The airplane crashed some 15 km off Punta Indio (5).

It became evident that the Dewoitine D-21C1 was an outdated fighter when, during September 1932, its 200 km/hr maximum speed was compared with the 240 and 280 km/hr speeds of the Curtiss Falcon and Hawk which were violating Argentine air space. These airplanes were operated by Brazilian rebels at Sao Paulo and were flown to Brazil from Las Cerrillos/ Santiago by Chilean crews. These repeated violations by foreign combat

planes revealed the inadequate capabilities of the Argentine air defenses which were based solely on the D-21C1.

This situation was aggravated by the low serviceability of the Dewoitines due to continuous troubles with the Lorraine-Dietrich engines. To improve this situation, the Navy ordered four new complete engines from the Fabrica Militar de Aviones (FMA) on July 1932. However, the production was disrupted by lack of parts and the first engine was not delivered until November 1935! The factory also failed to provide a batch of engines accessories and only succeeded in delivering 10 two-bladed wooden propellers.

On 24 July 1934, C-102 was lost when it caught fire in the air and crashed killing the pilot Suboficial Belausteguigoitia. On 16 February 1935, the propeller of C-101 broke in flight during machine-gun practice at Bajo Hondo. The airplane crashed killing the pilot, Teniente de Fragata Medrano.

After the fatal crashes, the flying activity of the surviving Dewoitines decreased notably. At the end of 1935, when the command of the Escuadrilla de Combate was taken over by Teniente de Fragata Eleodoro Patricchi, it was only a few months before the unit would be deactivated. The Navy donated aircraft C-103 to a technical school at Tucuman. C-107, remained in very good condition, at least until early 1938, as an instructional airframe at the Escuela de Mecanica in Buenos Aires.

Notes

- (1) Letter from Alferez de Navio Raul Mason Lugones and Alferez de Navio Exequiel del Rivero, dated at Rome, Italy, on 5 January 1927.
- (2) Huff Daland Model 5 Petrel; two-seat, training biplane in service with the Escuela de Aviacion Naval since late 1925.
- (3) Report from Suboficial Mateo Cazzasa to Teniente de Fragata Raul Mason Lugones; dated at Thun, Switzerland, on 19 December 1928.
- (4) Orden General #41 issued on 13 February 1931.
- (5) C-106 was officially deactivated by Planilla #35 of January 1933 together with its Lorraine-Dietrich engine serial 32807.

Front Cover: D.21C1 serial AC-6, assigned to the 1st Naval Region, parked in front of a hanger at Estacion Aeronaval Puerto Belgrano in late 1930. (Author's collection)

Photo Captions (Page 70: All photos from the author's collection unless otherwise noted.)

- a. Dewoitine D.1201 #1. This model, powered by a Lorraine-Dietrich of 450 hp was the starting point for the development of the D.21C1 selected by the Argentine Navy.
- b. Rear view of D.21C1 AC-2 at Thun airdrome during February 1930. This view clearly shows the size and shape of the black wing markings.
- c. D.21C1 C-101 at Estacion Aeronaval Punta Indio in April 1931. This aircraft was used by the commander of the Escaudrilla de Caza. The black rectangle on both sides of the fuselage identifies this machine as belonging to the leader of the 1st section of the squadron. (Argentine Navy)
- d. The remains of C-102 near Punta Indio NAS. The aircraft crashed on 24 July 1934 following an in-flight fire. This was the second D.21C1 lost by the Navy and the first of two fatal crashes.

Jorge Felix Nunez Padin (SAFCH #395), Laspiur 1803, 8000 Bahia Blanca, Argentina.

OKB MiG: A History of the Design Bureau and its Aircraft, Piotr Butowski and Jay Miller. 248 pages. 8.5 in. by 11 in., 300 photos, over 100 drawings, 8 pages in color. Specialty Press, 123 North Second St., Stillwater, MN 55082. Hardcover \$39.95.

[Editor's note: No question about it. MiGs is big! Three new books on Mig to be reviewed in this issue, and this one is the big daddy of them all. Strange to see Jay Miller's name on something not published by Aerofax, but Specialty Press seems to have everything in good hands. They've provided the most complete publisher's review I've ever seen, so I'm going to let them tell you all about this book, but I've taken out a lot of intrusive adjectives, such as "first ever", "most detailed", and other hyperbole. I'll add a few comments at the end.]

"For the first time in a English language publication, a detailed history of the Soviet aircraft design bureau founded by Artyom Mikoyan and Mikhail Gurevich has been released. This book contains the biographies of the founders; provides insight into lesser known personalities and their contributions; describes the bureau's history and development; and, perhaps most importantly, describes every known MiG aircraft from the original Mikoyan Oktyabrenok to the latest 'fly-by-light' MiG-29 derivatives and the advanced MiG-31. The book is divided into eight chapters and nine appendices as follows:

"Chapter 1 'Background: An Abbreviated History of Soviet Aviation'. A brief overview of Soviet aviation history from the early 1800s to the present, with emphasis placed military aviation. Included are many rare photographs of Soviet aircraft.

"Chapter 2 'Bureaux and the Soviet System': A review of Soviet bureaucracy and how it impinges upon and controls the bureaus in the design, development, and construction of new aircraft. Numerous charts and drawings are utilized to emphasize and clarify significant points.

"Chapter 3 'The Team': A biography of the two bureau founders, Mikoyan and Gurevich. It describes the bureau's birthing and its first products including the MiG-1, MiG-3, and other WWII MiG aircraft.

"Chapter 4 'The Jet Engine'. A review of the birth of jet propulsion in the Soviet Union and its effect on post-war military aviation. The MiG bureau's incorporation of the jet engine into the design of new MiG aircraft is covered. Several design studies, including the original twin-engine MiG-9 and the Lyulka-powered FL are described. Trials and tribulations of flight testing early jet (and rocket) powered fighters are emphasized. This chapter also provides a review of the MiG-15, MiG-17, and MiG-19 programs including many little known aspects. For example, the MiG-15 section provides information about in-flight refueling trials, experimental radar installations, and the supersonic MiG-15LL testbed; the MiG-17 section covers the rarely-seen SN with its bifurcated intakes and its articulated nose gun installation; and the MiG-19 section provides the first account of the ZELL-optimized SM-30 and the near-Mach 2 SM-12PMU and its ventral rocket pack. A complete listing of all MiG-15, MiG-17, and MiG-19 user countries is included.

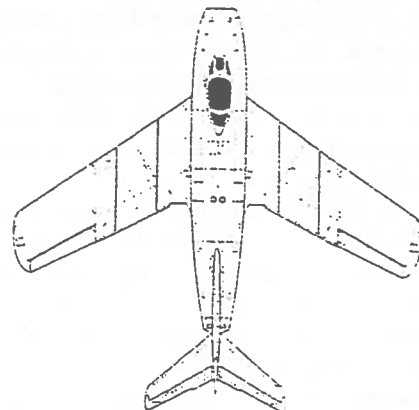
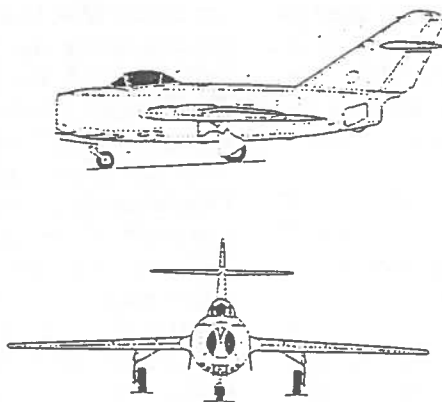
Chapter 5 'The Twenty-First'. A review of the MiG bureau's best-known supersonic design, the MiG-21. Coverage of all known variants is included, with details describing the differences, modifications, and performance improvements. Many of the lesser-known variants and testbeds are discussed, including photographs of virtually all the

prototypes, a review of the ANALOG project, a listing of all records set by MiG-21 variants, and a discussion of the various MiG-21 evolutionary studies including the Ye-152 and Ye-166 testbeds. A complete listing of all user countries is included. "Chapter 6 'Variable Geometry' The history of the use of variable geometry wings on aircraft and the birth of related technology in the Soviet aerospace industry. An account of the MiG-23 program and

The appendices are: 'The MiG in Combat' A brief overview of the utilization of the MiG in every major skirmish from Korea to the present (WWII is covered in great detail in Chapters 1, 2, and 3). 'Powerplants' A review of all known powerplants utilized in MiG aircraft. 'Armament' A review of all known armament systems (guns, missiles, rockets, etc.) utilized in MiG aircraft. 'Development of Soviet Airborne Radar Systems' Additional infor-

MiG-15

Drawn by William Cahill



MiG-15bis



SBLim-1A



SBLim-1



SBLim-2A



MiG-15UTI



SBLim-2M



its Ye-231 predecessors is provided, along with information on the various operational variants and their capabilities. A number of new MiG-23 and MiG-27 variants are discussed, including the MiG-23P, the newly noted 'product' designators such as 32-24, and the MiG-27K.

"Chapter 7 'Mach Three and Beyond'. A review of the MiG bureau's efforts to design, flight test, and produce the Soviet Union's first Mach 3 aircraft, the MiG-25. Described is the arduous and technologically demanding task of putting together the various elements, such as materials, aerodynamics, and propulsion, to create a Mach 3 fighter. Covered also in this section is the follow-on MiG-31, the state-of-the-art MiG-29, and the fictitious MiG-33 and MiG-35. The story behind the latter is based on quotes from the MiG bureau's present chief, Rosislav Belyakov.

"Chapter 8 'MiG Aircraft in Detail'. A review of each MiG aircraft type. Specifications and performance figures are included for each distinctive model or variant whenever possible. Each major aircraft type is illustrated with a three-view drawing and photographs. Details are provided on armament, systems (including radar, where applicable), powerplant type, etc.

information about Soviet aircraft radar equipment. 'Chinese Variants' Additional information, drawings, and photographs of Chinese MiG spin-offs. 'Personalities' Additional information and photographs of important MiG personalities and test pilots. 'Facilities' Additional information and photographs of important MIG facilities. 'Addendum' Additional information about the BURAN, SPIRAL, 50-50, and BOR projects. 'Bibliography' A modestly comprehensive review of the more important references on Soviet aviation.

"The photo selection for this book is the most comprehensive collection of MiG images ever assembled between two covers. Many of the photographs have never previously been seen in print, and numerous examples were taken specifically for use in this volume. Among the rarest images are photos of the MiG-9L, the various MiG-15, MiG-17, MiG-19, MiG-21, and MiG-23 prototypes, the Oktyabrenok, the Ye-150, the Ye-152, and the MiG-23BM (Wild Weasel). Cockpit and miscellaneous details are provided and emphasis has been placed on armament, radar, and related peripherals.

The drawings for this book are primarily by William Cahill. Many of the drawings represent the

most accurate depiction of the respective aircraft, and, in some cases, the first drawings of the aircraft ever published."

This book is truly impressive, both textually and visually, but it will take a great many more hours of reading before I can assess its full value. A few initial observations follow. The "multi-view" drawings are not that impressive, being small (the sample is full size) and rather lacking in detail. The information provided in the list of "user countries" is woefully inadequate; for example, "Afghanistan - Operates or has operated MiG-19s" is about as detailed as it gets.

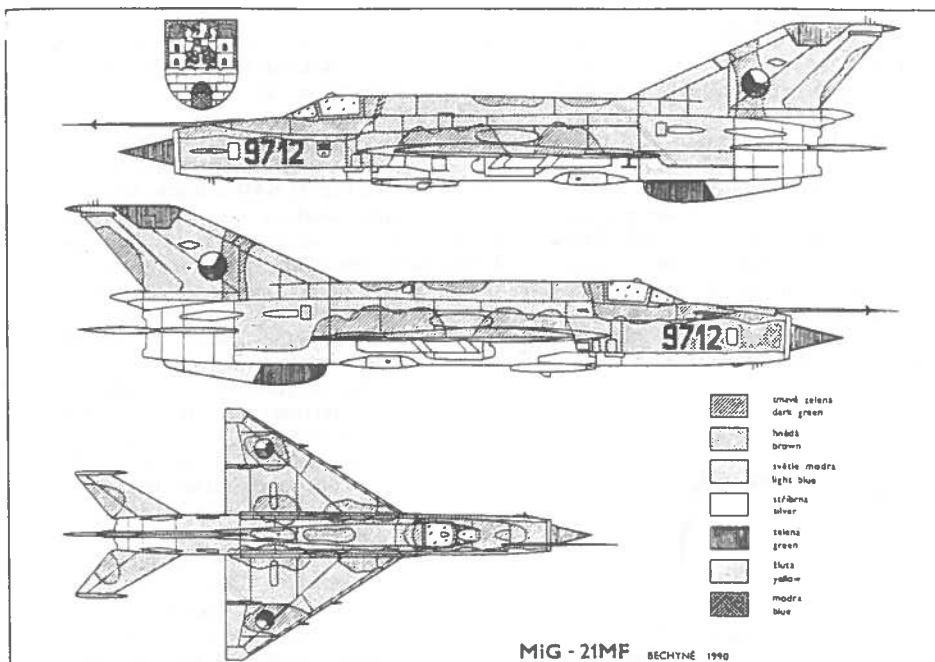
The photo representation of the small air forces is a little better; there are a lot of photos of Migs in the small air forces, but mostly from countries that have been well covered before. The following lists the model by country and the number of photos, if greater than one: Afghanistan 21; Algeria 15; Bangladesh 21; Bulgaria 17; Cambodia 15; China 15 (3), 19 (2); 21; Cuba 15, 17, 21; Czechoslovakia 15 (7); 19; 21 (7), 23/27 (3), 29 (4); Egypt 12, 17 (2), 19, 21 (6), 23/27; Ethiopia 21; Finland 15, 21 (7); East Germany 15, 17 (2), 19 (2), 21 (5), 23/27 (4); Hungary 23/27 (2); India 21 (6), 29; Indonesia 17, 21; Israel 21 (4), 23/27 (2); Libya 23/27 (2), 25 (8); Mongolia 21; Morocco 17; Nigeria 17; Pakistan 15, 19 (5); Poland 15 (6), 17 (6), 19 (2), 21 (14), 23/27 (2), 29 (2); Romania 3, 15, 21; Syria 15, 17, 23/27; USA 21 (2); North Vietnam 21 (3); Yugoslavia 21(5), 29 (3). I've made no attempt to list subtypes. One hilarious blooper appears in a caption under a photo of a Pakistani 2-seat MiG-15: "The Turkish Air Force acquired a number of Chinese-manufactured JJ-2/MiG-15UTIs." Sure there's a star and crescent on the tail, but a two color roundel I suspect that neither Piotr nor Jay did the captions since this error does not carry over into the text. These are only nit-picks that I picked up while browsing. I am confident that after I've spent a good many more midnight hours with it, OKB MiG will impress me even more than it does now. I can assure you that no true "MiG Maniac" should be without this book. (Review copy supplied by publisher.)

MiG-21, Ovcakik. 52 pages, 21 cm by 29.5 cm, 110 color photos, 104 b&w photos, 5 page of 1/72-scale drawings, four 3-view color scheme drawings, one-page cutaway drawings, 5 sketches of details, and a page of drawings of external stores. Softcover. Published by 4+ V.O.S., PO Box 27, 19800 Praha 9, Czechoslovakia.

[Editor's note: The dedication to this book is very interesting: "This publication is dedicated to all who deserved well for principle changes in Czechoslovakia in November 1989. Without them neither our company nor this publication could arise."]

Leave it to the Czechs to take the Aerofax format and improve on it; more pages, more color, more scale drawings, more color schemes. The only thing that is less is the text; 10 pages including 5 devoted to a complete English-language summary (not the usual frustrating "summary"). But even here they go Aerofax one better by delineating the differences between the various variants with the modeler's viewpoint in mind.

All the photos are of Czech aircraft with the exception of one of a Finnish F-13 and two of the East German PF at the Dresden Army Museum. The photos are about equally divided between shots of aircraft and of details. The 3-view color-scheme drawings are for a Czech F, R, MF, and UM. The aspect where the book improves the most on the Aerofax format is in the completeness of the 1/72-scale drawings; every variant is covered: F, PF,

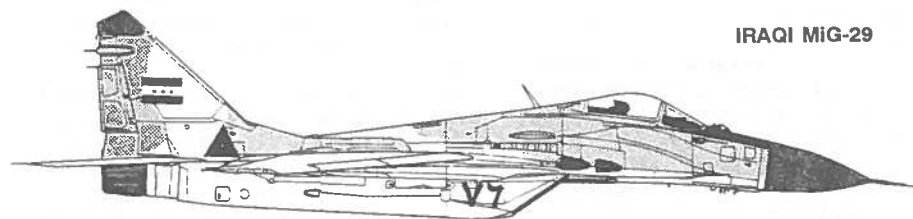


PFM (SPS), R, SM, SMT, MF, bis, U, and UM. Another outstanding feature, much appreciated by this reviewer, is that the photos are grouped by variant and the designation is indicated at the bottom of each page. A page of 1/72-scale drawings of external stores codifies the variety of pylons, launchers, missiles, rockets, bombs, fuel tanks, and reconnaissance pods.

The book is printed on high-quality glossy paper and the reproduction of both the color and the b&w photos is every bit as good as Aerofax at its best. With this book in hand, along with Squadron's "MiG-21 Fishbed in Color", the modeler should be in hog heaven.

Needless to say, I'm excited about this book and I have ordered a number of copies from the publisher. These should be available when you read these words, or soon after. The next type to be covered by 4+ VOS will be the Su-22 and I hope to have these as soon as they are available. (Review copy provided by the publisher.)

AEROFAX EXTRA 2: MIG-29 FULCRUM,



Miller, 42 pages, 158 photos, 22 illustrations, softcover. Specialty Press, 123 North Second St., Stillwater, MN 55082; \$9.95.

"This is the first English language reference describing the full history of this aircraft ever published. Complementing the extensive and authoritative text is a selection of photographs taken specifically for this book. High-quality, fresh images of the MiG-29 cockpit are provided, including not only the single-seat MiG-29A, but also the rarely seen two-seat MiG-29UB (both front and back seats and all four consoles). Just as importantly, the first public domain images of the Fulcrum C - nicknamed Fatback - are included.

"With over 20,000 words of text, 4 pages of color, 158 overview and detail photos, and the most accurate multi-view drawings yet published, this book will remain the premier reference on its subject for some time to come." (Review copy provided by the distributor.)

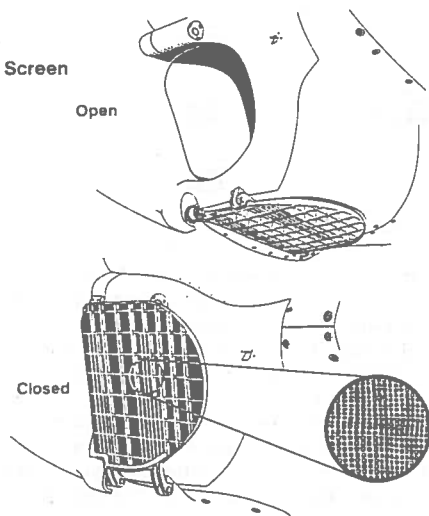
[Editor's note: Don't let the publishers hyperbole turn you off; this is a fine book in the true Aerofax tradition. What's in it for the small-air-forces enthusiast? The text mentioned 20 countries interested in the MiG-21s. Besides the well-known customers (Czechoslovakia, Cuba, East Germany, Hungary, India, Iraq, North Korea, Poland, Romania, Syria, and Yugoslavia), the following countries may be using the MiG-29 or were considering their purchase as of 1990: Afghanistan, Algeria, Finland, Iran, Jordan, Nigeria, Switzerland, Thailand, and Zimbabwe. Photographs in this Aerofax Extra include aircraft in the markings of Poland, Czechoslovakia, Iraq, India, East Germany, and Yugoslavia. Side-view drawings are provided for an Iraqi and an East German machine.]

PREGLAD KONSTRUKCJI LOTNICZYCH is the first in a new series of booklets from Poland each of which will cover one aircraft type. The first issue is on the Su-22M4, and includes four pages of 1/72-scale drawings with cross sections, drawings of details, excellent color photos of engine, cockpit, undercarriage, pylons, weapons, and other accessories. Color drawings shows Polish (2), Afghan, Iraqi, and ex-East German aircraft. Colors are referenced to FS595a, and all captions are in Polish and English. Of special delight is the color photos of Polish squadron markings such as a "flying tiger" and a fox holding a bomb.

The publisher, Altair Ltd., promises four more issue for 1991: PZL-130 Orlik, Mi-24D, MiG-23MF, and MiG-29A. These booklets are an absolute hit and a must for every small-air-force buff. Wojciech Butrycz (SAFCH #981), ul. Facimiech 12A m.25, 30 667 Krakow, Poland.

A-37/T-37 DRAGONFLY IN ACTION, Love. 54 pages, 28 cm by 21 cm, 90 photos, 4 color paintings, 9 color side-view drawings, 2 1/72-scale 3-view drawings, 4 3-view drawings of proposed follow-ons, 10 side-view drawings of variants, and 8 sketches of details and weapons (including those illusive FOD screen discussed in SAFO a few issues back). Squadron/Signals Publications; Aircraft Number 114.

A-37
FOD Screen



[Editor's note: The dedication to this book reads: "To the late, great Mr. Robert J. Pickett of Cessna Aircraft. Friend, historian, and photographer - this is for you pal." Bob was also a good friend of the SAFCH and he will be sincerely missed.]

This book, in the familiar Squadron/Signal format, is of the high quality we have come to expect from this publisher. However, there is an important difference in this volume; SAFCH member Terry Love has been able to put in lots of data and information about the small air forces that fly the T-37 and A-37. The coverage of the T-37 imports details their use by 15 air forces (Brazil, Burma, Cambodia, Chile, Columbia, Germany, Greece, Jordan, South Korea, Pakistan, Peru, Portugal, Turkey, and South Vietnam) and includes photos of aircraft in Brazil (4), Cambodia (1), Chile (2), Columbia (2), Greece (1), Pakistan (1), Peru (2), Portugal (2), Thailand (2), and Turkey (1). The chapter on the A-37Bs in Foreign Service lists 9 countries (South Vietnam, Peru, Chile, Columbia, Ecuador, Uruguay, Honduras, Guatemala, and El Salvador) and includes photos of aircraft in South Vietnam (5), Peru (3), Chile (3), Columbia (2), Ecuador (3), Uruguay (3), Honduras (2), and Guatemala (1). A color painting shows a Peruvian A-37B, and color side-view drawings show the T-37B of the Portuguese Aerial Demonstration Team, and A-37Bs of the South Vietnam, Chilean, and Salvadoran air forces.

Great job, Terry, but I wish your art team had done a better job in illustrating the differences between the A-37 and T-37. Looking at the photos, it appears to be more difficult that I taught to back-date the Hawegawa A-37 to a T-37. (Review copy provided by the author.)

50TH ANIVERSARIO (1939-1989) BASE AERONAVAL COMANDANTE ESPORA, 24 pages 15 cm by 20 cm. 15 photos, 10 squadron patches in color.

This slim volume was published in 1989 to commemorate the 5th anniversary of the establishment of Comandante Espora NAB at Puerto Belgrano some 350 miles south of Buenos Aires. Naval aircraft from this base played a major part in the Falklands/Malvinas War and it is also the home of the Argentine Museo Aeronaval. The text, in Spanish, provides a short history of the base and lists the commanders, the units, and the aircraft assigned. A also described are the units currently in residence: Arsenal Aeronaval #2, Centro de Adiestramiento de la Fuerza Aeronaval #2, 1st Escuadrilla Aeronaval de Helicoperos, 2nd Escuadrilla Aeronaval de Helicoperos, Escuadrilla Aeronaval Antisubmarina, 2nd Escuadrilla Aeronaval de Caza y Ataque, 3rd Escuadrilla Aeronaval de Caza y Ataque, and Centro de Exhibicion de Aeronaves. The photos show navy Kaydet, Alouette II, Sea King, Tracker, Super Etendard, and Skyhawk. The color page is very well done and illustrates the badges of the Aviacion Naval, Ara. Fuerza Aeronaval #2, Base Aeronaval Cte. Espora, and the units listed above.

A very nicely done little book, with decidedly limited appeal. A few copy have been made available to the SAFCH by it author (and SAFCH member) Jorge Felix Nunez Padin.

LOCKHEED F-117 STEALTH FIGHTER, Miller. 50 pages, 105 photos, 22 illustrations, softcover. Specialty Press, 123 North Second St., Stillwater, MN 55082; \$9.95.

"The Stealth Fighter, one of the United States' most famous 'top secret' weapons, is revealed with comprehensive accuracy in a new edition. The first edition was the first book published showing all the aspects of this fascinating warplane and this edition is updated with Desert Storm coverage and four additional pages of color photos. The book contains 105 detailed photographs showing all aspects of the plane, including details such as intake and exhaust nozzle configurations which are shown for the first time. Also shown are shots of the plane in flight and during landings.

"Photo captions point out important structural details, ranging from gear retraction to auxiliary intake door positions. Some of the book's highlights include three-view drawings and illustrations; secrets of the plane's radar-absorbent material; newly uncovered information about the use of the aircraft during the Panama invasion; and first-ever coverage of the General Electric turbofan engine." (Review copy provided by the distributor.)

AIRCRAFT OF THE SPANISH CIVIL WAR, 1936-1936, Howson. 310 pages, 8 in. by 11 in., cloth bound. US edition published by the Smithsonian Press, \$60.00.

Easily the best English-language text on the subject. Starts with a brief history and details on markings and camouflage and then to the aircraft types with excellent detail as to acquisition and use with photos. Appendices cover war-time Air Lines, Clandestine aircraft Importation including

"Problematical Aircraft", and types and quantities of aircraft used by the opposing sides. Fascinating stories such as how 34 Grumman G-23 got to the Republic including the involvement of Herman Goering's Turkish drug dealer, and also why the Romano fighter biplane didn't get to the Republic. This book received glowing reviews in the December 1990 AIR INTERNATIONAL and in AIR ENTHUSIAST 42 by reviewer Philip Jarrett who calls it "absorbing, attractive and scholarly." To this, I can only add, "Thank you, Mr. Howson." Bill Brown (SAFCH #526), 1719 Minnie St., Port Huron, MI 48060.

AVIONES EN LA GUERRA CIVIL ESPANOLA 1936/1939: INGLES - CHECOS - POLACOS, Miranda and Mercado. 294 pages, 9 in. by 12 in., 16 pages with color profiles of 60 aircraft, cloth bound. Aldaba Ediciones S.A., Calle Anzuola 2, 28002 Madrid, Spain.

This, the second volume in the series, contains excellent 1/72-scale drawings of 41 aircraft, plus variants and various markings. Also included is a discussion of aircraft engines, weapons, and bombs; aircraft codes for both sides; an explanation of Nationalist markings; camouflage colors with Humbrol paint equivalents; and a list of volunteer British, Czech, and Polish pilots. Justo all includes a list of 118 scale-model kits and decal sheets available.

Get out your Spanish dictionary for this worthy companion to his first on US and Russian aircraft. The first volume was so popular it rated an English translation, but I couldn't wait for the English edition, if it comes. My Catalan friend got mine for me. With exchange and postage it cost me about \$75.00. Bill Brown (SAFCH #526), 1719 Minnie St., Port Huron, MI 48060.

"Bob Mikesh's book *Flying Dragons: The South Vietnam Air Force* is finally showing up in the book catalogs at a reduced price. K AND S MILITARIA (PO Box 9630, Alpine, TX 79831) lists it for \$29.95 plus \$3.50 shipping, while Zenith Books (PO Box 1, Osceola, WI 54020) has it listed for \$19.95 plus \$4.50 for shipping. Considering the quality of this book and an original price of almost \$50, this is quite a bargain."

Ted Koppel (SAFCH #118), 3520 N. Rolling Rd., Baltimore, MD 21207-2202.

[Editor's Note: For those unfamiliar with this book, here's the Zenith description: "The first in-depth history of VNAF from the 1950s to the fall of Vietnam. Official sources and formerly classified documents detail their transition from a lightly armed, poorly organized air force flying obsolete WWII aircraft, to the fourth largest air force in the world flying modern US planes trained by US pilots. Includes many rare photos and markings. Hardbound, 8" x 10.5", 208 pages, over 200 ill. (Was \$49.95)."]

MILITARY AVIATION SERIES. Specialty Press's (PO Box 338, 123 North Second St., Stillwater, MN 55082) current catalog lists a couple of titles from this excellent series by Midland Counties Publications: "Spanish and Portuguese" \$6.95; "French (2nd Edition)" \$8.95; "Latin American" \$14.95; and "Italian" \$14.95. It's a real shame that Midland Counties did not continue with this excellent series. These books are highly recommended and the price is right. (Not listed are the "Dutch" and "Belgian" books.)

THE BELGIUM AIR FORCE IN WWII

PART 2: THE PHONY WAR - September 1939 to May 1940

Walter M. Verstraeten

As the clouds of war gathered ominously over Europe in the Autumn of 1939, the Belgium government, intent on avoiding a repeat of the destruction wrought on their country only twenty years before in World War One, did everything it could to preserve its country's neutrality. On 26 August, over half a million Belgian men were called to arms and the military was ordered to maintain a status of armed peace. Germany invaded Poland on 1 September, and three days later, with the German's still ignoring an ultimatum to leave Poland, England and France declared war on Germany. On the same day, Belgium declared its intention to remain neutral.

Among other things, this neutrality required protecting the airspace over Belgium against foreign intruders of any nationality.

The first major aerial incident over Belgian territory took place on 19 April 1939 when a German Lufthansa Junkers Ju-52 passenger plane GUSTAV LEFFERS, D-ANAL, diverted from its normal course to take aerial photos of the defenses at Liege. As this was not the first time for this kind of activity, planes from 1/I/2Ae (No. 1 Squadron of No. I Group of No. 2 Air Regiment) were waiting for the plane over Liege and they forced the German plane to land at Evere airfield (near Brussels). After inspection, the plane was released for passage to Cologne.

On 9 July 1939, a German Luftwaffe team flying Bucker Jungmeister training aircraft participated in the celebration of the 25th Anniversary of the Belgium Military Air Service at Evere Airfield. In the course of the very skilful and audacious solo demonstration, Hauptmann Wille was killed when he failed to complete his third 'tonneau' and crashed in front of the grandstands. Two days later, the remains of the pilot were flown back to Germany on board a German Ju-52, escorted to the border by six Gladiators of 1/I/2Ae.

At the commencement of war in September 1939, German, French and British aircraft began to violate Belgian air space. To counter these incursions, on 6 September, 2/I/2Ae was assigned to protect the eastern border of Belgium, whereas 4/II/2Ae of Nivelles was assigned the western coastline. Flying unarmed planes, their mission was to intercept each and every trespassers and to guide them to the nearest airfield. Strict neutrality was to be the watchword.

On 9 September 1939, an intruding flight of three British Armstrong-Whitworth Whitley bombers of No. 102 Squadron RAF strayed over Belgian territory while returning from dropping propaganda leaflets over the Ruhr. They were intercepted by aircraft from two Belgian squadrons; 4/II/2Ae flying Firefly single-seat fighters and 5/III/2Ae with Fox VI two-seaters, both from the Nivelles airfield.

Whitley (K8985, DY0J) was forced to land at Nivelles and was found to contain only leaflets, but no bombs. However, since it was armed with four Vickers and two Browning machine guns, it was interned and would remain at Nivelles until it was destroyed by German bombs on 10 May 1940.

The Belgian aircraft that accosted the second Whitley on this night were in for trouble. The tail gunner of this Whitley opened fire at two of the intercepting planes, missing one but seriously damaging the second, a Fox VI. The stricken aircraft went into an uncontrollable spin, forcing the two crew members to bail out. Both were slightly injured. This Whitley and the third made it back to England.

The British authorities were very apologetic about this incident and even offered to provide a Boulton-Paul Defiant aircraft as compensation to the Belgian Military Air Service. The Belgian Ministry declined this offer in the spirit of Belgium's policy of strict neutrality.

On 10 November, a No. 87 Squadron RAF Hurricane MkI (L1619, LK0P) flown by Flight Lt. Horatio Dunn ran out of fuel after having engaged a Dornier over Tourcoing. The pilot forced-landed in the Mouscron area, slightly damaging the plane. Flt. Lt. Dunn was captured and imprisoned near Antwerp. He escaped a few weeks before the German invasion of the Low Countries in May 1940. He returned to England only to be killed in Yorkshire on 1 June 1940 after a scramble from RAF Church Fenton.

On 14 November, No. 87 Squadron RAF made the news again as two of three trespassing Hurricanes forced-landed on Belgian beaches near De Panne and Koksijde. Both pilots were interned. Their Hurricanes were repaired and transferred to the 2/I/2Ae at Schaffen, which was already flying Hurricanes.

A Blenheim bomber from No. 57 Squadron RAF, based at Amiens, France, crash landed at St. Baafs-Vijve on the Courtrai-Ghent road on 16 November. This crew was also apprehended and interned. The fate of their Blenheim is unknown.

On 22 November, a Heinkel He-111 (5j + FA) of Stabstaffel KG.4 based at Quakenbruck-am-Rhein, Germany, encountered two Curtiss Hawk 75 fighters of the French 1ere Escadrille du Groupe de Chasse 1/4 at Norrent-Fontes, France, and in the ensuing dog-flight was shot from the air near Torhout, Belgium. The pilot survived and was interned, but his entire crew perished in the crash.

On 9 December, a Hurricane (N2361) of No. 43 Squadron RAF based at Vassincourt (Bar-le-Duc), France, landed at Esplechin (near Tournai), Belgium, barely 400 meters from the French border. The pilot realizing his error, fled across the border abandoning his airplane. This Hurricane is believed to have been repaired by the Military Air Service Establishment at Evere and put into service with 2/I/2Ae at Schaffen.

On 3 January 1940, a No. 18 Squadron RAF Blenheim (WVoB, L1410) based at Meharicourt (Picardie), France, crashed in flames near Raeren-lez-Eupen, Belgium. Several crew members survived the crash although all suffered of burns in varying degrees.

On 10 January there occurred an incident that would cause a great deal of controversy among the Allies as to the interpretation of its implications. On that day, a Messerschmitt Me-108 'Taifun' (DNF + AW) made a forced landing under foggy con-

ditions near Mechelen-aan-de-Maas in the Belgian Province of Limburg. Piloted by Major Eric Honmanns, this liaison aircraft also carried Major Helmuth Reinberger, Adjutant to Colonel Bassenge, Commanding Officer of Dienststelle Fliegerfuhrer 220, 7. Flieger Division. The two Germans were arrested by the Belgian Gendarmerie who found, on Major Reinberger, top-secret documents that appeared to be the invasion plans for the Low Countries. The importance of these documents was underlined by Reinberger's attempt to destroy them.

A thorough investigation was made of the matter in order to ascertain the value of the documents and discussion of their authenticity reached to very high levels. Finally, the Belgian Army would re-enforced their troops on the German border, but nothing else was done. History would prove the plans were genuine.

Because of a navigational error, a RAF Wellington bomber (N3004, LNoI) landed near Lonze, Belgian. Assuming they were on German soil, the crew tried to set their airplane on fire, but failed. After apprehension, they were imprisoned at the Fortress II barracks near Antwerp, from which they would 'escape' shortly afterwards, along with all British crews being held there at the time.

2 March 1940 would bring one of the most tragic aerial incidents of the Phony War. This incident would fundamentally change the Belgian's definition of neutrality. On that day, three Hurricanes of 2/1/2Ae intercepted an intruding Dornier Do-17. As they attempted to divert the bomber to the nearest airfield, the Do-17 opened fire hitting all three intercepting aircraft. The leading Hurricane crashed near Bastogne killing Second-Lieutenant Xavier Henrard. The second aircraft crash landed near Chiny, and the third Hurricane managed to limp back to its home base. This incident led to the decision to arm all intercepting aircraft from that day on.

On 12 March, orders again were given to three Hurricanes of 2/1/2Ae to intercept yet another D0-17. A fierce exchange of machine-gun fire resulted in severe damage to the three Belgian aircraft. Two Hurricanes made it back to the base, while the third, piloted by Sgt. Pierre Van Strijdonck, made a successful emergency landing near Durbuy.

On 20 April, a Heinkel He-111 crossing over Belgian territory would find itself subject to three consecutive attacks by opponents of as many nationalities. Initially confronted by three French Morane-Saulnier MS-406 (CG II/2), the He-111 was severely damaged and abandoned by the French fighters planes over the Soignes area. As it approached Vise, three Belgian Gladiators of 1/1/2Ae were sent to intercept the German bomber. The He-111 was chased into Holland where it was hit so badly by Dutch anti-aircraft fire that the pilot had to crash land his bomber near Maastricht, the Netherlands. The ensuing arrest of the crew would reveal that the He-111 belonged to a top-secret German Geschwader executing a very special mission. Certain reports on this incident imply that a Gefreiter (Corporal) Stern was murdered by his fellow crew-members following an unpromising argument about how to abort the mission.

The month of April 1940 accounted for the greatest number of intrusion over Belgian territory. The month's events would end on 30 April with the landing of a Blenheim from No. 18 Squadron RAF (L8875, WVoS) at Evere airfield. The sight of many Battle bombers stationed at Evere fooled the British pilot into believing he was over a British base in France.

On 6 May 1940, four days before the German Blitzkrieg in the Low Countries and France, three Belgian Hurricanes inadvertently trespassed over French territory and ran out of fuel. Two of the aircraft managed to get back to Belgian soil, but Sgt. Van Strijdonck landed at St. Omer where he was warmly welcomed. His plane refueled and he was allowed to return to his home base in Belgium.

On 10 May, 1940, in the early hours of a misty morning that would lead to a sunny day, the Luftwaffe initiated the German Blitzkrieg on the Netherlands, Belgium, the Grand Duchy of Luxembourg, and France. Our next installment, will bring a detailed account the period that would later become known as the 18-Day Campaign.

Walter M. Verstraeten, Brevenstraat 116, B-2680 Bornem, Belgium.

THE THAI NAVAL AIR ARM

(The notes that follow are based on an article in the Thai magazine ALL WARFARE, #137, 30 April 1982, which details the Thai Navy's aircraft. This includes photos of all the aircraft types that served with the Thai Navy, but, unfortunately, the reproduction of these photos is so poor that no details of their markings can be seen. In fact, it's sometimes difficult even to be sure of the type of aircraft.)

Pre-war, the Thai Navy seems to have used only three types of aircraft, all float biplanes. The photographs are very poor, but they seem to portray the Yokosuka K4Y1 training floatplane, the Nakajima E4N observation floatplane (designated recon. Type 2 by the Thai Navy), and one type (designated Type 1) which I cannot positively identify, but which looks very similar to a K4Y1 with a cowled engine.

The Thai Navy never actually had any aircraft-carrying ships until very recently (some of its current warship can handle helicopters) but shortly before WWII, it ordered two 6"-gun cruisers of 5500 tons on order from Italy which would have operated recon-

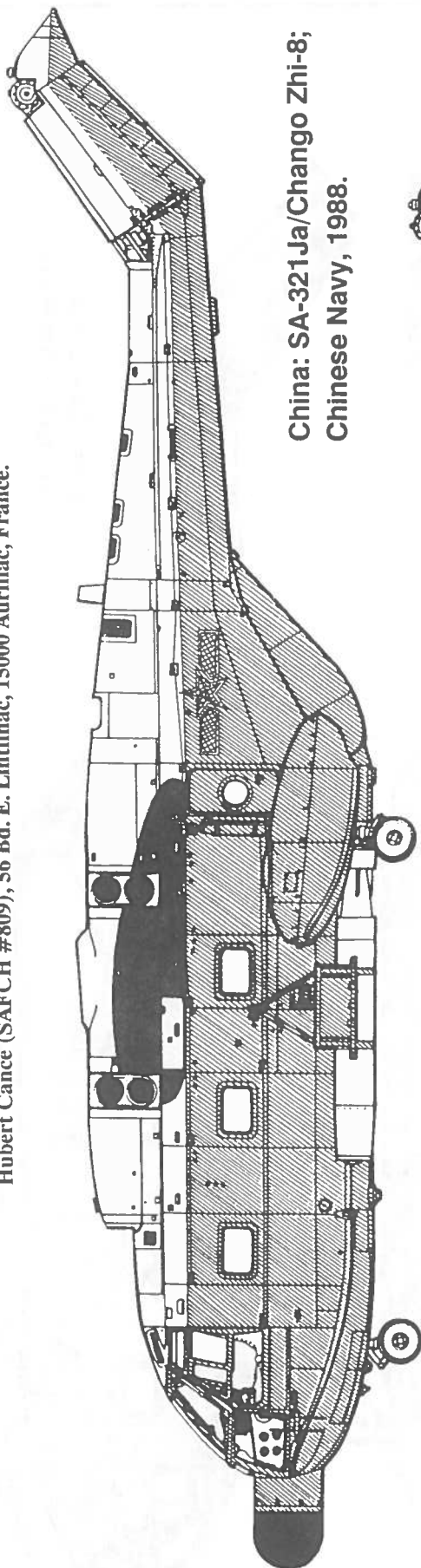
naissance floatplanes off their catapults. With the outbreak of WWII, these ships were requisitioned by the Italian Navy, but they were never completed and were scuttled after the Germans occupied Northern Italy in 1943. In Thai service these ships would have been named TAKSIN and NARESUAN.

Post-war, the Thai Navy's first aircraft was the Aichi E13A Jake, undoubtedly ex-Japanese, designated recon. Type 3 in Thai service. Since then, the Thai Navy has used the following types: de Havilland Tiger Moth, Piper L-4 Cub, North American AT-6, Curtiss SB2C-5, Fairey Firefly I, Piper L-18 Super Cub, Beech Bonanza, Grumman Gosling, Cessna O-1, Douglas C-47, Grumman HU-16, Grumman S2F-1, Cessna U-17, Cessna-Rheims 339 (0-2), Canadair CL-215, Bell UH-1H (float equipped), Bell 212 (UH-1N), GAF Nomad, Fokker F.27 Coastguarder, and Bell 214ST.

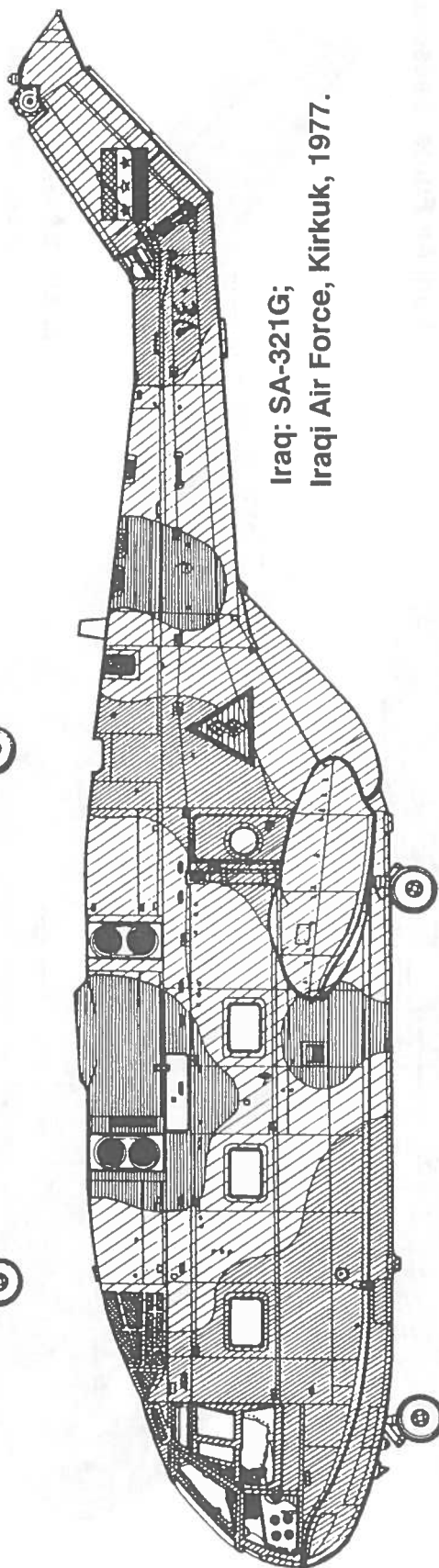
John MacGregor (SAFCH #766), 13 Foggyle Gardens, Dundee DD2 3LG, SCOTLAND.

AEROSPATIALE SA-321 SUPER FRELON

Hubert Cance (SAFCH #809), 56 Bd. E. Lintilhac, 15000 Aurillac, France.



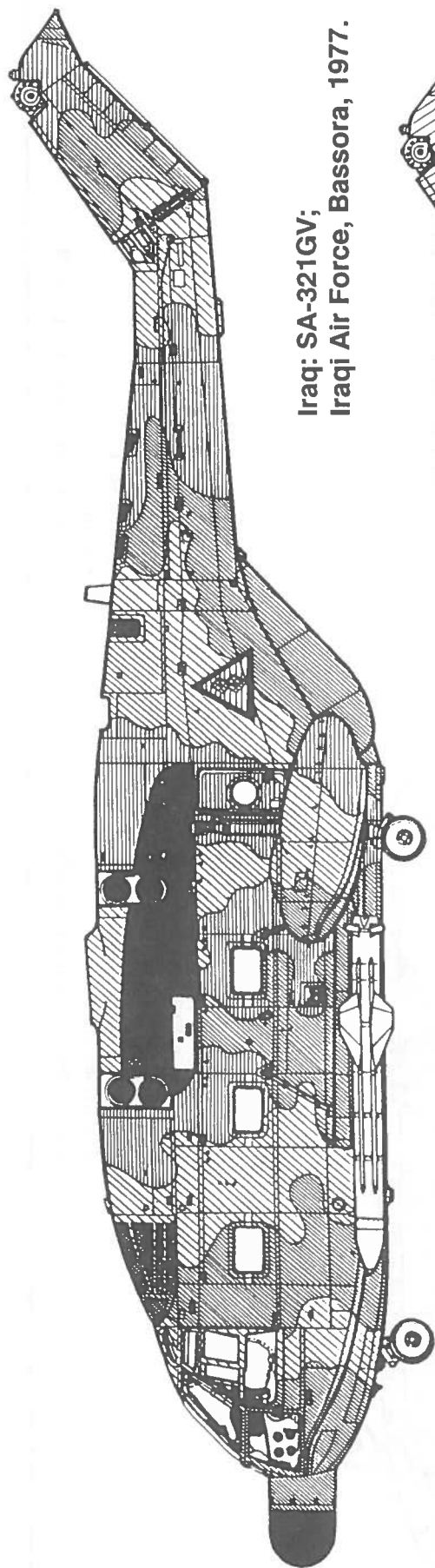
China: SA-321Ja/Chango Zhi-8;
Chinese Navy, 1988.



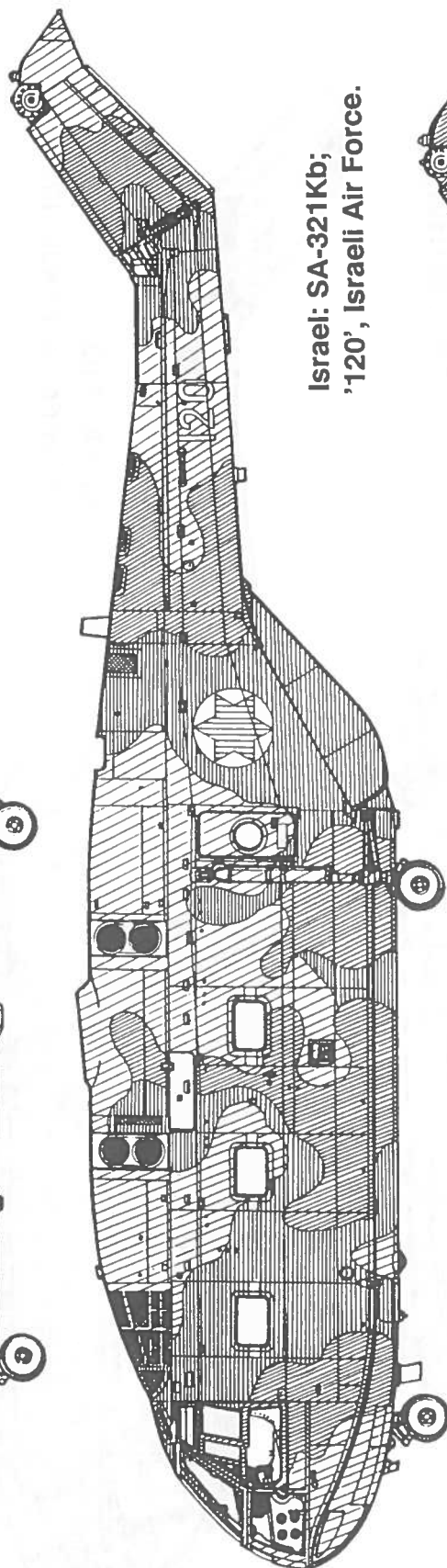
Iraq: SA-321G;
Iraqi Air Force, Kirkuk, 1977.

REFERENCES

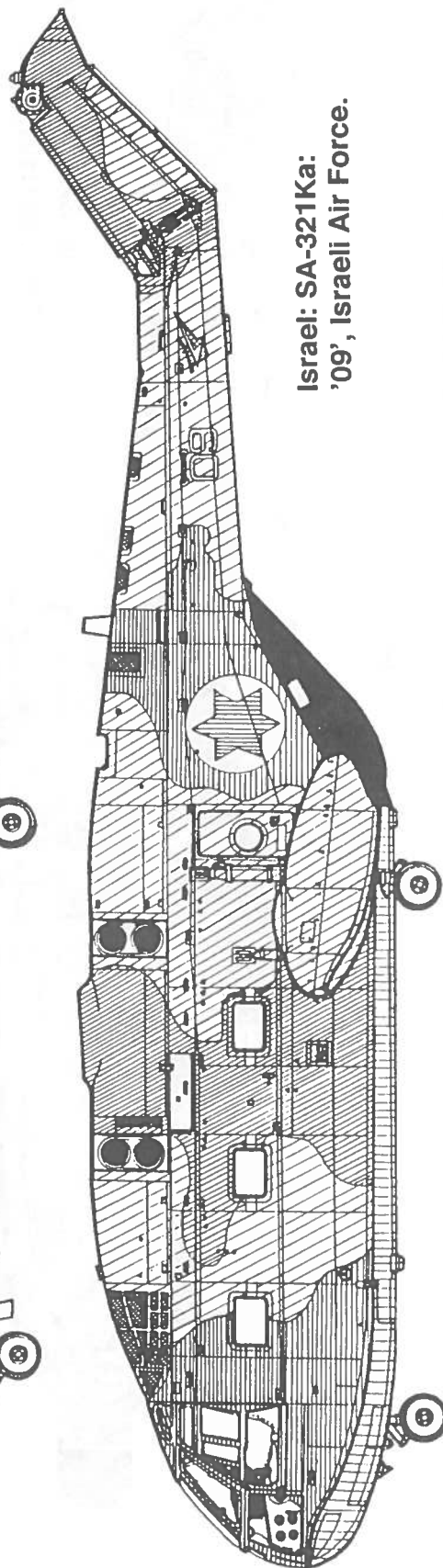
1. Avions de Guerre, No. 79.
2. Aviation Magazine Nos. 729 & 732.
3. Du Sinai au Golan 1967/79 (edt Fleurus).
4. Elsevier, l'Aviation Militaire d'aujourd'hui.
Les Avions de combat
Las Forces Aeriennes du monde.
5. Bordas, Helicopteres militaires.
6. Atlas, les Forces Aeriennes du Monde.
7. Air International, Vol. 20, No. 4.
Vol. 13, No. 1.
Vol. 10, No. 5.
8. Connaissance de l'Histoire Nos. 12, 15, & 19.



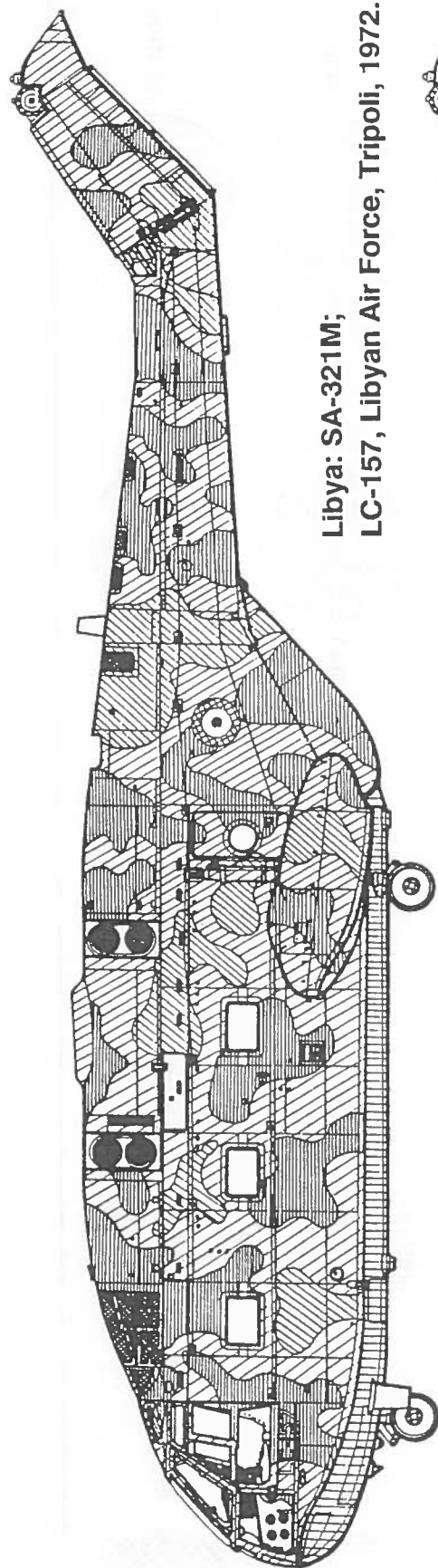
Iraq: SA-321GV;
Iraqi Air Force, Bassora, 1977.



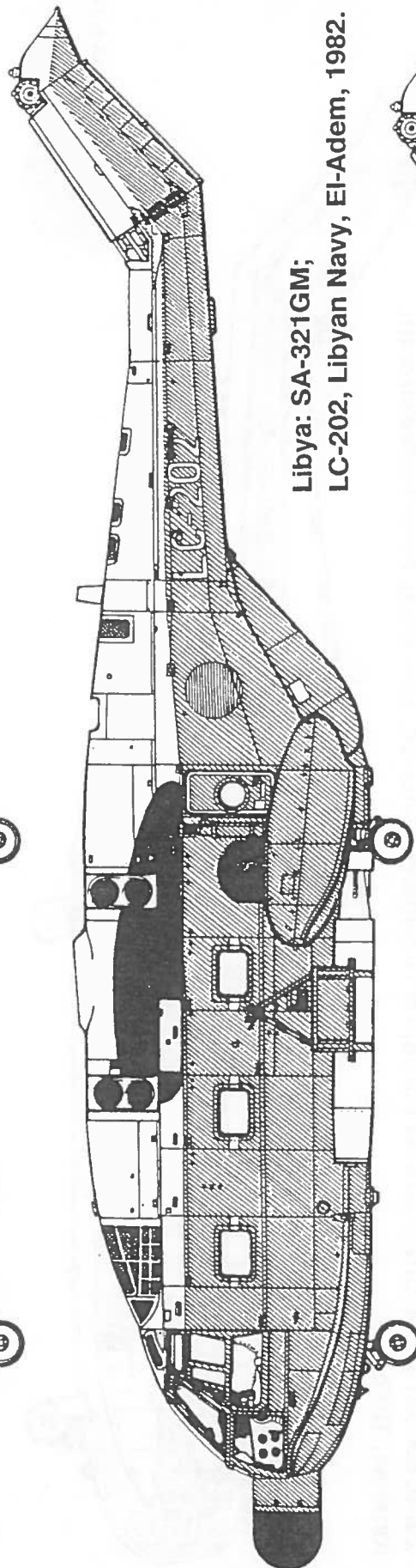
Israel: SA-321Kb;
'120', Israeli Air Force.



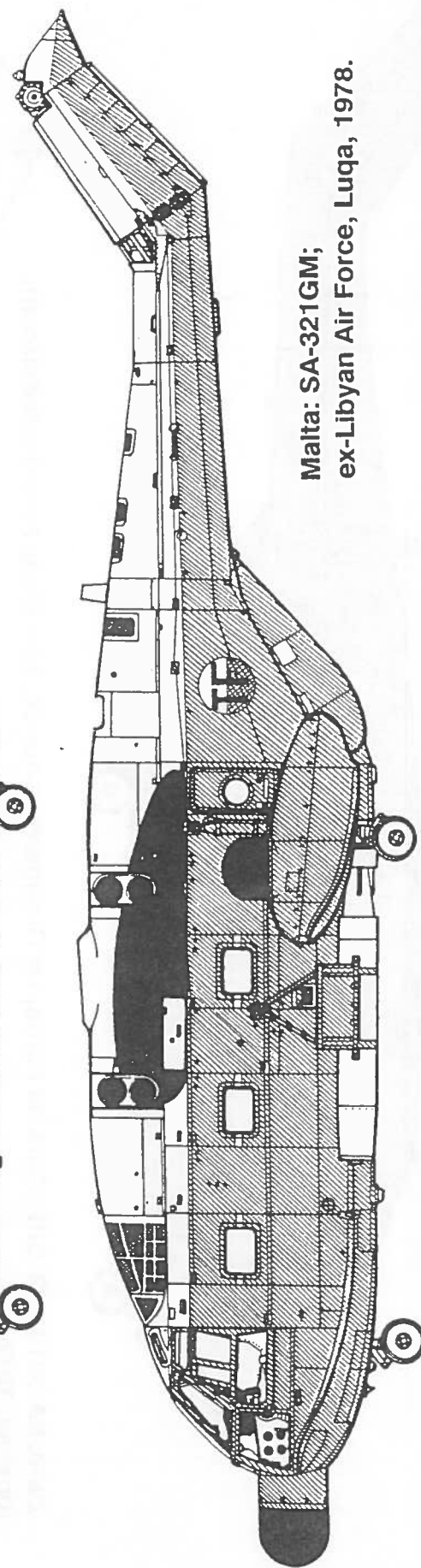
Israel: SA-321Ka;
'09', Israeli Air Force.



Libya: SA-321M;
LC-157, Libyan Air Force, Tripoli, 1972.

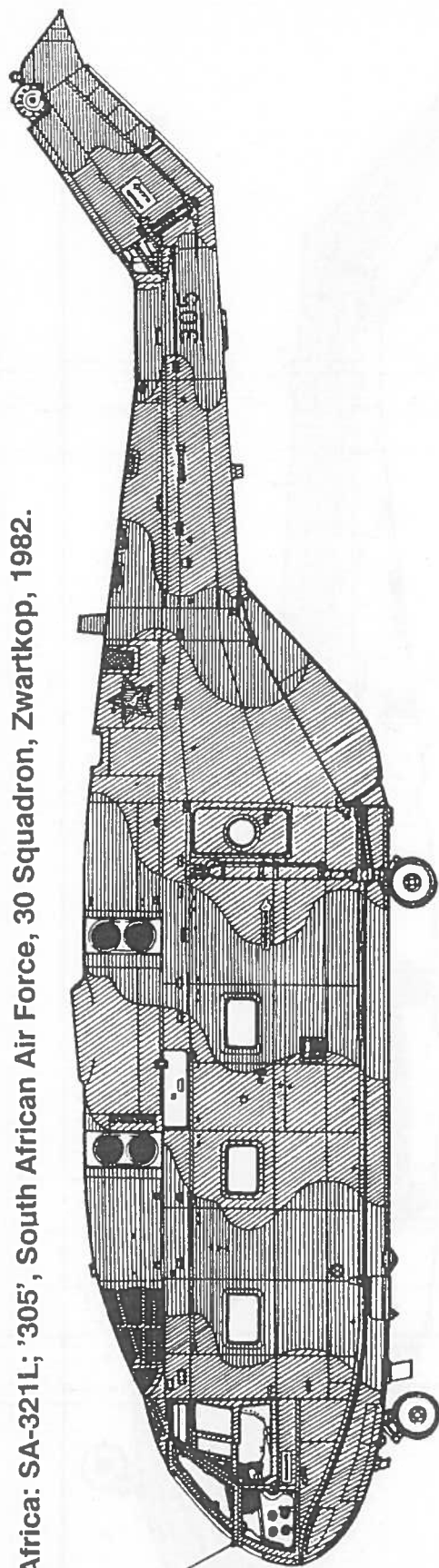


Libya: SA-321GM;
LC-202, Libyan Navy, El-Adem, 1982.

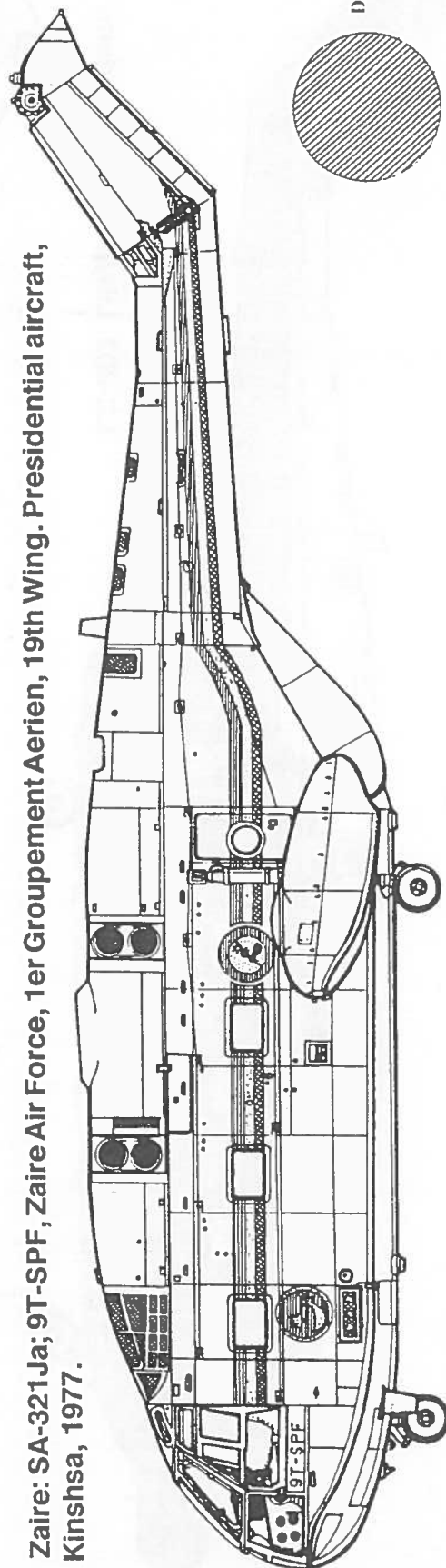


Malta: SA-321GM;
ex-Libyan Air Force, Luqa, 1978.

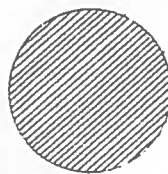
South Africa: SA-321L; '305', South African Air Force, 30 Squadron, Zwartkop, 1982.



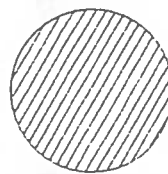
Zaire: SA-321Ja; 9T-SPF, Zaire Air Force, 1er Groupement Aerien, 19th Wing, Presidential aircraft, Kinshasa, 1977.



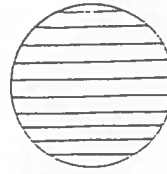
DARK EARTH



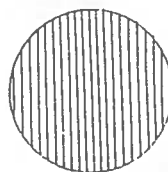
SAND



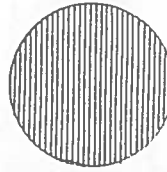
LIGHT BLUE



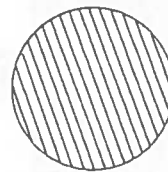
MEDIUM GREEN



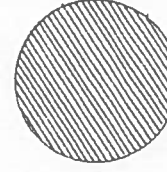
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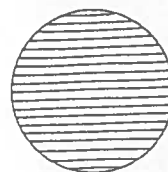
LIGHT BLUE GREY



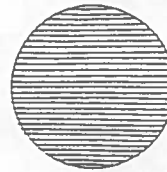
DARK BLUE GREY



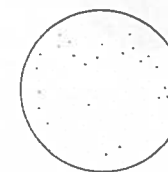
MEDIUM BLUE



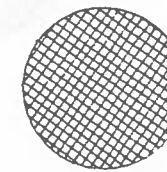
DARK BLUE



YELLOW



RED



FIRST KILLS OVER POLAND

Michael Dobrzelecki

In the predawn hours of 1 September 1939, 29 year-old 2nd Lieutenant Wladek Gnys slept as peacefully as possible given the fact that it was almost certain that Poland would soon be at war with Hitler's Germany. A few days ago his squadron, "The Winged Arrows", No. 121, had secretly moved from their peacetime base at Rakowice (next to Krakow) to their combat airfield at Balice, a few miles to the southwest. There, along with a sister squadron, No. 122, "Paper Horses", they hid their P-11c monoplanes in the forest. Now there was nothing to do but wait for orders from "Armia Krakow", to which the two squadrons had been assigned. They knew for certain that their peacetime base at Rakowice would not last long when war came. If Polish Military Intelligence reports were not enough, the frequent over flights by high-altitude Dornier Do-17 reconnaissance aircraft confirmed that they were targeted for early destruction.

The Polish Air Force moved all their best front-line aircraft to secret bases, leaving obsolete and derelict aircraft at their peacetime bases out in the open to fool the Luftwaffe into thinking that the Polish aircraft could be destroyed on the ground in the opening hours of the war.

While Gnys slept, far to the West at Stuka Geschwader's 1/St G2, "Immelmann", combat airfield in Anaberg, Germany, Oberleutnant Frank Neubert and his gunner, Franz Klinger, were making the last pre-flight checks on their Ju-87 B1 Stuka, coded T6 + GK. Neubert was ordered the night before to not drink any alcohol and to go to bed early. His mission that morning - attack the Polish airbase near Krakow along with the squadrons from "Flieger Fuhrer zbv" and "Flieger Division 2".

He hoped it would be cancelled like the mission previously scheduled for 23 August. That hope drained away like the rivulets of condensation kicked back across the Stuka's nose by the propeller as he idled for take-off. The stream ran over the squadron insignia under the wind shield, a black Scottish Terrier on white disc. Frisky little "Molch", the squadron terrier mascot, was nowhere in sight. Hubertus Hitscholdt, the squadron commander, wanted to keep his pooch out of harm's way that morning. There was no putting it off; Neubert was going to war. The Staffel's nine Stukas rose from the field at 0445 hours and assembled in formation. Resembling some giant bird of prey with its angular lines, inverted gull wings, underslung radiator, and fixed spatted landing gear, the Ju-87 was to become the very symbol of terror from above - the symbol of airborne Blitzkrieg. That summer had been remarkably dry, which served to keep the Polish dirt roads hard packed - perfect for mobile warfare. That morning the cloud cover proved troublesome and the Stukas soon became separated. Through the wisps. Neubert could see only two other Ju-87's still with him. The rest were nowhere in sight. Neubert's orders took this possibility into account. If he could not attack his primary target, he was to attack targets of opportunity - Polish troops, a railway station, a bridge - anything of military importance.

Seeing some aircraft in the distance, Neubert quickly identified them as Stukas from another Staffel. Together they overflew Krakow until a break in the clouds revealed they were too far east - between Krakow and the River San. The Stukas turned

back west towards the Polish airbase. There were less clouds now and Neubert was confident of finding his primary target. Arriving over Rakowice, Neubert could see the airbase was already in flames. Sixty twin-engine Dornier and Heinkel bombers and numerous Staffeln of Stukas had already hit it hard. Neubert and his composite group were one of the last to arrive over Krakow. He located his per-assigned target, a garage for airfield vehicles, nosed over in the classic Stuka dive, and dropped his full load of bombs, obliterating the garage completely. Pulling out of his dive, he leveled off and headed for home.

However, his first day at war was far from over. His course home would take him right over Balice, the combat airfield of Gnys' squadron.

Wladek Gnys had already been rudely awakened by the earlier attack on Rakowice. Gnys' account of what happened next is a study in adrenaline-pumped terror tempered only by the instincts instilled in him from years of training as a fighter pilot.

"Before five o'clock, we were awakened by the tremendous noise of falling bombs at Krakow and lots of airplanes flying above us. My commanding officer yelled that we were being attacked, 'To the aircrafts' he said. Looking out the window, I saw Krakow was in flames. I dressed and ran to the part of the aerodrome where the planes were kept. As I passed Captain Mieczyslaw Medwecki, he called, 'Wladek, you take off with me.' Already the mechanics had started the motors. I jumped into the cockpit and went to the middle of the field for take-off."

The PZL P-11c monoplanes labored into the air. Both pilots were in P-11's equipped with four 7.7-mm machine guns rather than the usual two, but neither had a radio. A shortage of both guns and radios had plagued the Polish Air Force for years.

"At only 250 to 350 meters - it was still dark - I suddenly saw tracer bullets coming towards us. I looked to the right and saw shadows of aircraft and more tracer bullets. I knew we were being attacked. To make it more difficult to be hit, I flew below the tracers. My aircraft stalled and there was a danger of hitting the ground. I had no speed, it was so sudden. I managed to pick up my aircraft just on top of the trees. When I climbed up, I saw the commanding officer's plane swaying from left to right and I knew he was hit."

Caught at slow speed just after take-off, the two PZL's were at a distinct disadvantage, Medwecki's gull-winged fighters, with the colorful white and red thunderbolt painted on the side of the fuselage, was mortally wounded. Gnys managed to evade the attack, although he almost stalled his aircraft into the ground in the process. Neubert remembered a slightly different version.

"After the attack on the Krakow airfield, I was expecting to be attacked. Suddenly, in front of me was a Polish fighter. I tried to shot it down. Then they were coming from above. I added speed to go up. There were two machine guns. I got him into the sights and shot. I saw the first plane hit and I attacked it again, and then I saw the whole plane go up in flames. I was not a fighter pilot. I was Stuka pilot, a dive bomber pilot. We had only guns to defend ourselves. In this moment I only thought about my com-

ade in front of me. My thought was to save my comrade. He thanked me afterwards for saving his life."

Neubert's version he saw a Stuka with P-11's behind it and went to his friend's rescue, shooting down Medwecki.

After Gnys evaded the attack, he went after the other German bombers in the area. He first attacked an He-111, but was unsuccessful. He quickly found other quarry.

I started gaining height. I saw the last of the Stukas passing. The aircraft were going back to Germany, but I had nice height. I noticed two Dorniers to my left. I opened fire on the Dorniers at very close range. As I passed them, I was surprised the two Dorniers were so close together. I nearly hit them, I was so close. I aimed, opened fire and then my ammunition ran out. As I gained height, I looked below and the two Dorniers were burning."

The two Dorniers came down over Zurada, Poland. After Neubert missed Gnys, he continued back to Anaberg. Gnys landed his PZL P-11c, number "5" with 121 Squadron's insignia, "The Winged Arrow", painted on its side, back at Balice. Medwecki's P-11 was still burning on the outskirts of the field. He was 42 years old when he died.

Eyewitnesses remember Gnys returning victorious from his first combat flight and erroneously believed that he had gotten the Stuka which shot down Medwecki. This story was retold many times over the years, crediting a Stuka to Gnys as the first Luftwaffe aircraft shot down. Gnys' own combat report tells otherwise.

I noticed two German raiders flying on my left side, on the path Krakow-Olkusz. I attacked the rear bomber. I observed the rear gunner firing at me. After a few of my bursts, his fire stopped and the left engine on the aircraft began to smoke slightly."

Being a single engine dive bomber, the Stuka obviously was not Gnys' first victim. Additional proof comes from another report. Lt. Zdzislaw Pirszel, was traveling by car near Zurada with 2nd Lt. Jerszy Rejnowicz. They were directed by local villagers to the smoking wreckage of the two Dorniers. The photographs from his report show twin-tailed Dorniers. One was coded 32 + FR, identifying it as one of the last Do-17E bombers still in combat service with KG 77. These aircraft were still in the pre-war multi-color camouflage.

Further proof of their identity was documented the following day when parts from the aircraft, including a BMW engine, a wireless, machine guns, a camera, and other items were sent to Krakow.

Thus ended the first air battle of the war over the skies of Poland. Neubert in his Stuka, the most unlikely of victors, shot down the first aircraft of the war. His intended second victim, Wladek Gnys, shot down the first German aircraft, accounting for the second and third victories of the war.

Epilogue

The story of the "First Kills" did not end on the September morning. It would continue 50 years from that day, when, at the author's prompting, the Intrepid Sea-Air-Space Museum in New York City agreed to fly Neubert from Germany at their

expense for a reunion with Gnys at his home in Beamsville, Ontario, Canada. After the initial greetings they soon established a rapport while discussing their wartime experiences after their encounter over Poland.

Both flew during the Campaign in France in May and June of 1940 and during the subsequent Battle of Britain in the summer of 1940. When asked to describe his most memorable mission during the Battle of Britain, Neubert remembered a particular one in August when he attacked the RAF base at Tangmere. Wladek sat bolt upright exclaiming, "I was there! I was diving into slit trench!" By an incredible coincidence Neubert came close to killing Wladek a second time.

Neubert went on to serve on the Russian Front flying a variety of aircraft including Ju-87 Stukas, Henschel Hs-129 twin-engine attack aircraft, and Focke-Wulf FW-190's. He is the recipient of the famed Iron Cross. Gnys continued to serve with the RAF rising to the rank of Squadron Leader of the Polish 317 Squadron flying Spitfires. Wladek earned, among other decorations, the Distinguished Flying Cross, the Croix de Guerre, and the Virtuti Militari, Poland's equivalent of England's Victoria Cross or the USA's Congressional Medal of Honor. Wladek was shot down and seriously wounded over Normandy, France, in 1944. He carries the effects of those wounds to this day.

It is a miracle that both men survived the war. Despite the fact that they tried to kill each other and saw fellow colleagues shot down at the other's hand, neither gentlemen hold any animosity towards the other or any of their former enemies. The two mellowed warriors not only buried the hatchet, but forged a friendship that will last them to the end of their days.

Acknowledgments

The author would like to thank Wladek Gnys and Frank Neubert for so graciously giving of their time and experiences. Special thanks goes to Jerzy Cynk for unselfishly providing copies of original combat reports.

Sources

1. Interview with W. Gnys and F. Neubert at Beamsville, Ontario, Canada, on 30 August 1989.
2. W. Gnys, "First Kill", William Kimber & Co., Ltd, London, England, 1981. Addenda written by J. Cynk on true story of the first aerial victories.
3. Gnys' original combat report for 1 September 1939, labeled "Oswiadczenie Gnysia 1.9-3.9 1939" as reconstructed by Gnys in England after his escape from France. Copy obtained by the author from J. Cynk.
4. Original combat report, "Zestrzaly Gnysia 1.9.39", by Lt. Z. Pirszel, including photographs, of an examination of the wreckage of the two Do-17E's shot down by W. Gnys over Zurada, Poland, as reconstructed in England by Pirszel in 1941. Copy of report and photos obtained by the author from J. Cynk.

Michael Dobrzelecki (SAFCH #682), 1720 Long Hill Rd., Millington, NJ 07946.

KUWAITI A-4KU SKYHAWK

Michael Dobrzelecki

When Saddam Hussein's forces invaded Kuwait in August, 1990, the small Kuwaiti Army did not stand a chance against the Iraqi juggernaut. With moments to spare, elements of the 9th and 25th Squadrons of the Kuwaiti Air Force managed to escape to Saudi Arabia in a mixed bag of Macdonnell Douglas A-4KU's and Mirage F-1C's. They had to take off from sections of highway since the Iraqi Air Force had bombed their runways.

With ex-US servicemen under civilian contract as groundcrew, the Kuwaiti Air Force trained in Saudi Arabia awaiting the chance to liberate their country. They persevered despite a lack of A-4 specific spare parts and too few aircraft to go around. During the six-week air war, they carried out bombing raids against Iraqi forces in Kuwait and southern Iraq, dropping cluster bombs and regular iron bombs, contributing in no small measure to the demoralization and defeat of the Iraqi Army.

I was inspired to build the Kuwaiti A-4KU because of the evident parallels between the Kuwaiti Air Force and the Polish Air Force in exile during WWII. The model was put on display as part of an exhibit I coordinated, entitled, "War in the Gulf - The Liberation of Kuwait", which opened February 27, 1991, aboard the Intrepid Museum in New York City along with 60 models of other Gulf War aircraft and armor. A must see for all modelers.

Building a Model of a Kuwaiti A-4KU Skyhawk

Construction: Although based on the A-4M, the A-4KU's were purpose built specifically for the Kuwaiti Air Force and not ex-US Navy A-4's. A total of 30 were built, serial numbers 160180-160209, model numbers 801-830 respectively.

To accurately portray a Kuwaiti A-4 in 1/48 scale you need a Monogram A-4E/A-4F and Missing Link's excellent early A-4M conversion kit, which provides the enlarged canopy, the forward fuselage decking, the taller

squared-off tail, the parachute brake housing, and the large blade antenna on the A-4's hump. Luckily, the conversion kit also provides information to build an A-4KU by removing ECM bumps and fairings from the Monogram kit, leaving off others provided by Missing Link for the A-4M, adding the blade antennae to the tail, adding gun-gas deflector plates, removing the oil cooler on the underside of the rear fuselage, and rounding off the nose slightly. I modified the Monogram refueling probe because the resin part was unusable (the only bad resin part).

The conversion required the usual cutting, filling, and sanding you would expect. Parts were test fitted before each step. I built the interior straight out of the box with some minor trimming to fit the conversion parts. The jet intakes were blanked off deep inside the fuselage with the blanking plate painted black to simulate depth. The rest of the construction saw the usual removal of mold lines, opening of scoops, filling and sanding. The Monogram kit fits pretty well. The tires were flattened to simulate load. The flash suppressors on the 20-mm cannon were replaced with stainless-steel tubing. Hasegawa's weapons sets provided the bomb shackles and triple ejector racks (TER's) on the inboard wing pylons and MK-20 Rockeye cluster bombs; a typical load used by Kuwaiti A-4's during the Gulf War as seen on CNN.

Painting: The light stone/dark earth soft-edged uppersurface with light gull-grey undersurfaces camouflage was mixed by the old MK-1 eyeball from photos in Time and Newsweek magazines and film recorded from CNN. I used Polly-S paints for the upper surface and Pactra Acrylic for the lower colors. The inside of wing slats, flaps, and lip of the intake were first sprayed white as a primer, then sprayed Poly-S Acrylic red.

The interior of the wheel wells and gear doors are Pactra white, with a wash of black and a dry-brush of white over that. The interior of the intakes are white, also. The interior of the cockpit was finished in medium grey with panels in black. The ejection seat, switches, and dials were

picked out in various colors to match photos in Detail and Scale's A-4 issue. The nose tip and the panel by the 20 mm's were painted in black, slightly lightened for scale effect. Modelers are cautioned to examine photos for the specific A-4KU they intend to build because some do not have a black nose tip; other have the fairing at the base of the 20 mm's in bright natural metal.

The tires are Polly-S' dirty black. The refueling probe nozzle, jet exhaust nozzle, and 20-mm barrels are Testors gun-metal dry brushed with silver. The formation lights on the hump and wing tips were covered with Bare Metal Foil and coated with Tamiya clear red or green. The MK-20 cluster bombs are white with a yellow band on the nose and gunmetal nose fuses.

Decals: My A-4KU was built prior to release of the Kuwaiti A-4 sheet by Superscale. This sheet contains some mistakes. Desert Storm A-4KU's had no roundels on the wings. The Kuwaiti flags for tail are slightly too large, and the A-4KU/Serial Number block is not provided for the lower rear fuselage. I used Micro-Scale Gothic Railroad decals for the "FREE KUWAIT" lettering, Carpena Sheet No.72-2 for the Mirage F-1 (in 1/72 scale) for the proper size flags and Arabic numbers, and various Superscale sheets for the 3-digit model number and A-4 sheets for the serial number. The cluster bombs have Arabic graffiti, which an aide to Kuwait's Ambassador to the UN provided me. The translations are as follows:

TO SADDAM WITH LOVE

الى صدام مع الحب

REMEMBER KUWAIT

تذكر الكويت

Michael Dobrzelecki (SAFCH #682),
1720 Lang Hill Rd., Millington, NJ 07946.

any other version. The box art is almost up to Hasegawa's quality and the instruction sheets reveals that this kit originated with the well-established ZTS Micro stable. The decal sheet includes full stenciling and instrument panels for instructor and pupil.

Mastercraft's kit of the Iskra is a very good kit and a nice surprise.

Wojciech Butrycz (SAFCH #981), ul. Facimiech 12A m.25, 30 667, Krakow, Poland.

"I recently received a letter from a fellow in Czechoslovakia who has some interesting kits for

sale. Some some our readers may want to take a chance on him as he sent me a large number of slides (Czech MiG and SU) on approves and seems to be trustworthy enough. He says the following aircraft (1/72) and armor (1/35) resin kits are available: Westland Wyvern Mk4, Flying Jeep Rotobuggy, Bell XV-15, Grumman XF5F-1 Skyrocket, Kayaba Ka-1 gyroplane; T-38 M2 Russian amphibious tank, T-26 turret to convert Spojnia 7TP kit.

"I am not a small-scale modeler nor have I seen his products, so quality, etc. is an unknown. He writes well in English and is seeking hard currency. His

name and address are: Roman Sekyrka, Cerma Kova 33, 320 14 Pilzen, Czechoslovakia."

Dick Vartabedian (SAFCH #626), 5470 Chanto Dr., Clarkston, MI 48016.

Dewoitine D-520, 1/48-scale resin kit. Made in France and reviewed in July 1991 issue of FINESCALE MODELER, this excellent kit is available in the US for \$65.00 postpaid from Jules Bringuier (SAFCH #879), 4150 N. Ashland Ave., Chicago, IL 60613.

-accessories-accessories-accessories-accessories-accessories-accessories-accessories-accessories-accessories-accessories-

A range of colors used on Finnish AF aircraft and Finnish Army vehicles is now available. The colors are produced by XTRACOLOR from authentic information and have a gloss finish which eliminates the need to gloss varnish the model before applying decals. Matt, gloss, or satin varnish may be applied for the appropriate finish. The following colors are

included in the aircraft range: Olive Green 'Oliivi Vihrea' (34-54); Light Grey 'Vaalean Harmaa' (34-54); National Insignia Blue 'Kansallisuustunnus Sininen'; Yellow 'Keltainen' (41-44); Trainer Orange 'Harjoituskone Orabssi' (40-62); Black 'Musta' (40-48); Underside Blue 'DN - Sininen' (42-54); Dark Brown 'Tumman Ruskea' (80-);

Bronze Green 'Pronssin Vihrea' (80-); Light Grey 'Vaalean Harmaa' (80-). For information contact:

Martti Kuivalainen (SAFCH #282), PL 107, SF-02231 Espoo, Finland.

-decals-decals-decals-decals-decals-decals-decals-decals-decals-decals-decals-decals-decals-decals-

MPD Decals: MPD from Czechoslovakia has two new decal sheets in 1/72 scale. Each sheet measures 5 cm by 7 cm and they cover the MiG-29 and MiG-19.

The first contains national insignia, serials, and stenciling for three MiG-29: (1) Czech AF MiG-29 single seater serialied '7501', (2) Czech AF MiG-29UB two seater serialied '4401', and (3) Iraqi MiG-29 single seater serialied '2460'. The instruction sheet has three-view drawings of the camouflage scheme for both Czech machines (light green/dark green/dark brown/tan over light blue, and a side-view drawing of the Iraqi aircraft which is in the standard Soviet camouflage scheme. The decals are matt, sharp, and well printed. The second sheet contains national insignia and serials for two MiG-19S: (1) Syrian AF aircraft serialied '6208'

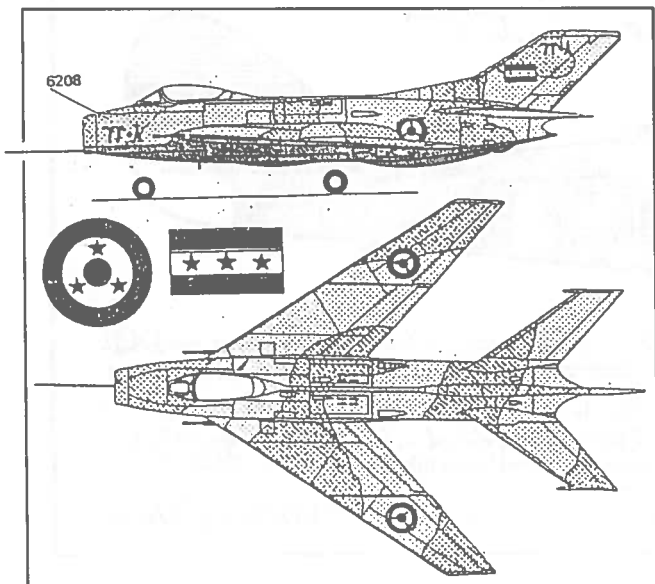
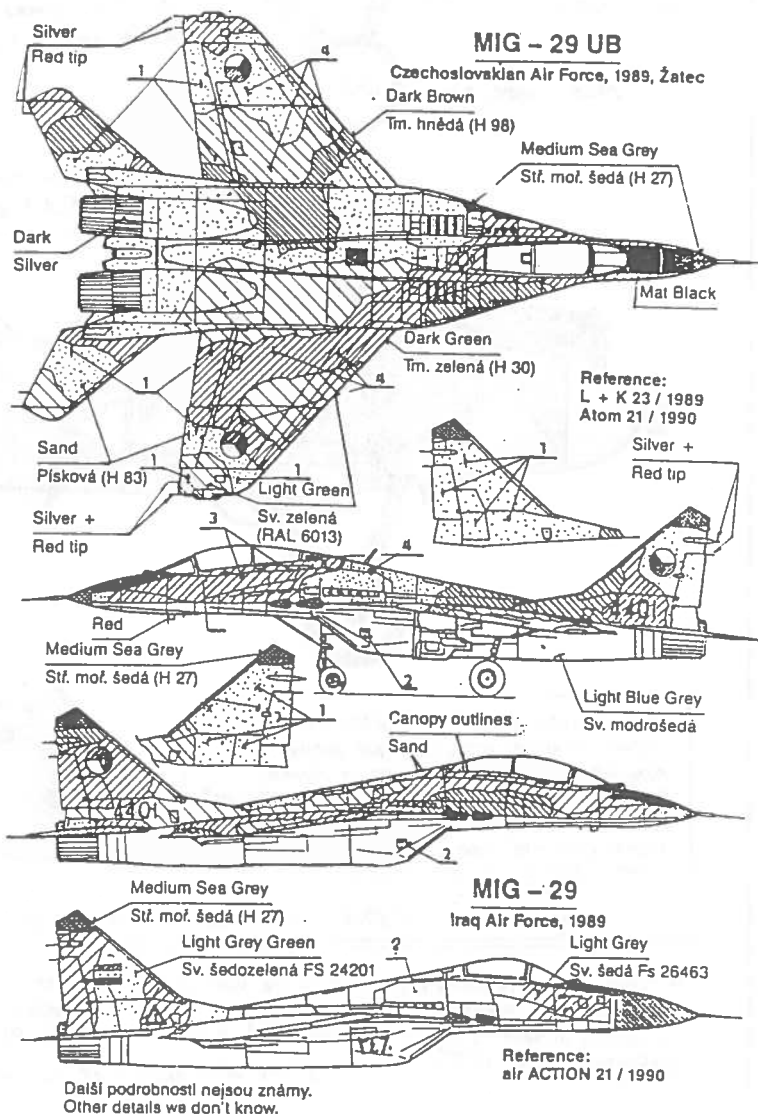
and camouflaged light and dark sand over light grey, and (2) Tanzanian AF Shenyang F-6 in bare metal and unknown serial.

I can recommend both these sheets to any true MiG maniac. They are superb.

Daniel Petz (SAFCH #623), Na Ladvi 21, 182 00 Praha 8, Czechoslovakia.

AERO Decals. Aero Decals from Poland continue to expand there line which now includes 48 different sheets. Of special interest are the sheet on the MS-406 which includes Turkish and Finnish markings, the SB-2 and Avia B-534 sheets with Slovak markings, and the Si-204 sheet.

Wojciech Butrycz (SAFO #981), ul. Facimiech 12A m.25, 30 667 Krakow, Poland.



ESTONIAN AIR FORCE

(Eesti Lennuvägi)

PART FOUR.*

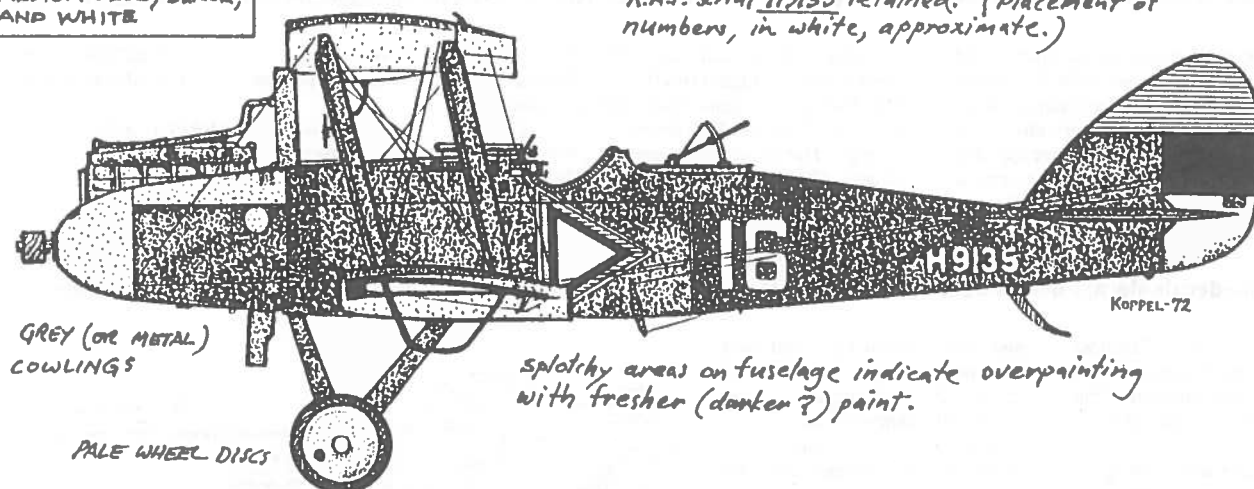
de Havilland D.H.9

UNFINISHED
PROJECTS FILE

PG.1

NATIONAL COLORS:
MEDIUM BLUE, BLACK,
AND WHITE

First D.H.9 in Estonian service, no.16, with
R.A.F. serial H9135 retained. (Placement of
numbers, in white, approximate.)

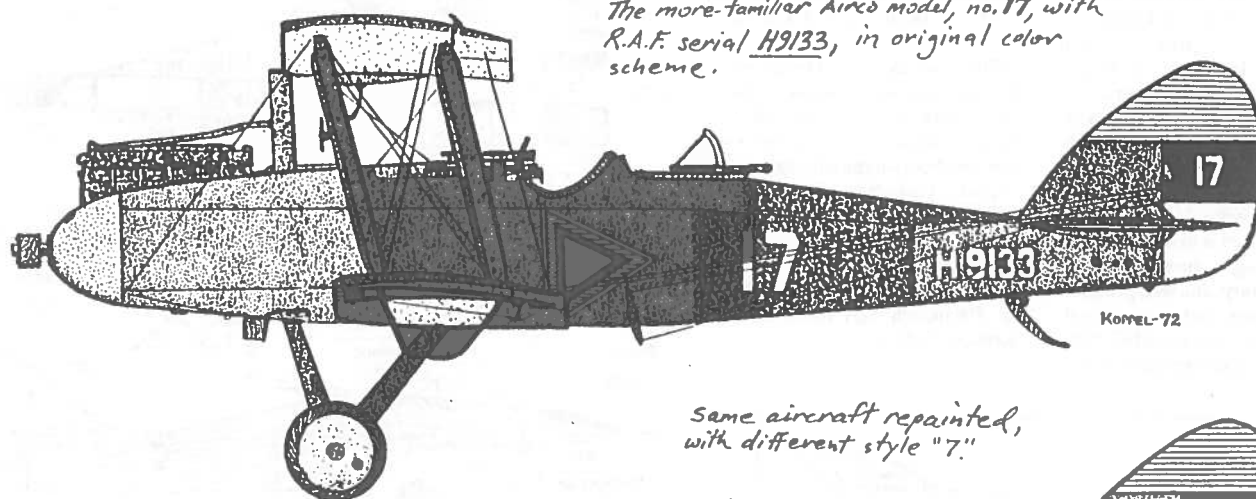


GREY (OR METAL)
COWLINGS

PALE WHEEL DISCS

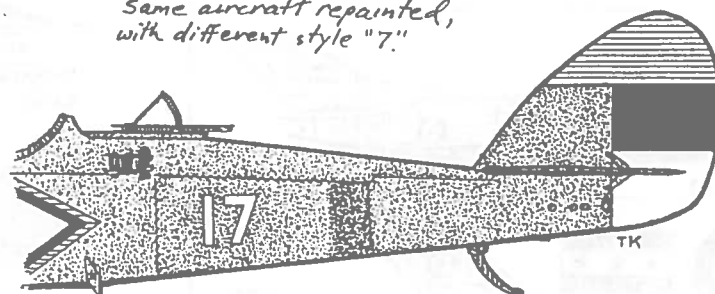
spotty areas on fuselage indicate overpainting
with fresher (darker?) paint.

The more-familiar Airco model, no.17, with
R.A.F. serial H9133, in original color
scheme.



Same aircraft repainted,
with different style "7"

THE EARLIER BATCH OF ESTONIAN D.H.9s
SEEMS TO HAVE RETAINED THE BRITISH
FINISHES OF VARYING AREAS OF KHAKI
(OLIVE) GREEN [OR EVEN CHOCOLATE BROWN]
AND BATTLESHIP GREY, WITH CLEAR-DOPED
LINEN (CREAM) FOR UNDERWINGS AND
WHEEL DISCS (IN MOST CASES).



By the summer of 1919, other D.H.9s received were Nos. 27 (D1246), 28 (D651), & four a/c shown on pp. 2 & 3.

* This was originally intended to be Part 3, to semi-chronologically follow the aircraft types in Pt. 1, the Sopwith 2F1 Camel, and Pt. 2, the Avro 405K & Avro 405R series (both parts printed in SAFO No. 2, Apr. 1975). A variety of factors led to postponement of this portion, so Pt. 3 became the Armstrong Whitworth Siskin III DC (in SAFO No. , Oct. 1979).

[See also notes at end of pg. 4.]

T. KOPPEL / SAFO

UNFINISHED PROJECTS FILE

SAFCH Research Project No. 2

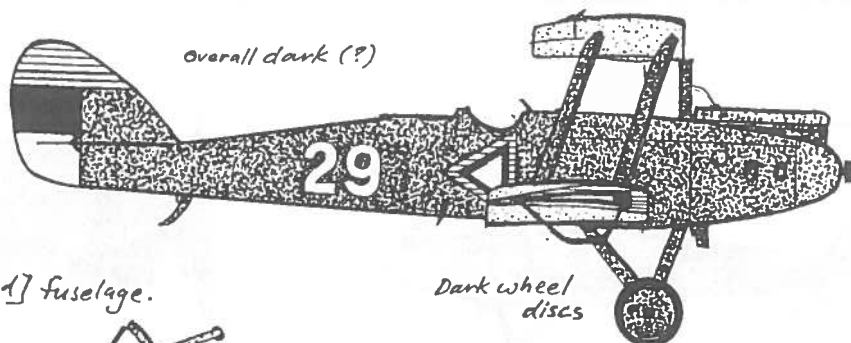
ESTONIAN AIR FORCE

(Eesti Lennuvägi) PART FOUR: de Havilland D.H.9

pg.2

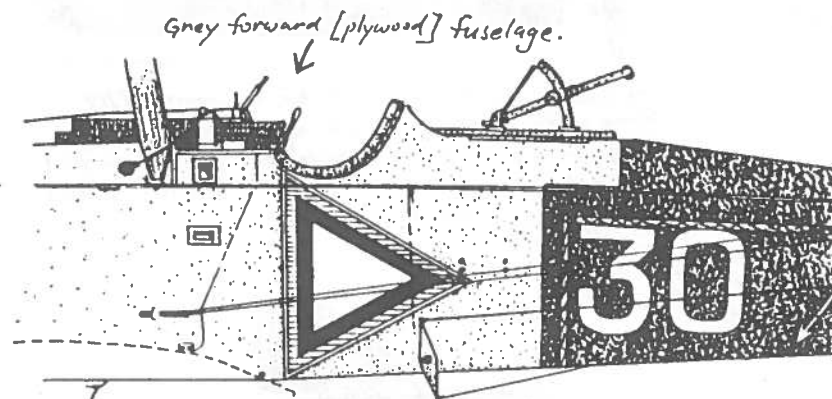
Provisional placement, size of fuselage markings. →

No. 29 possibly carried its R.A.F. serial D693 also at one time.



Overall dark (?)

Dark wheel discs



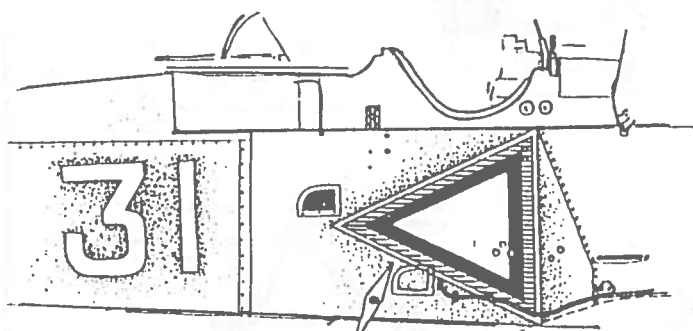
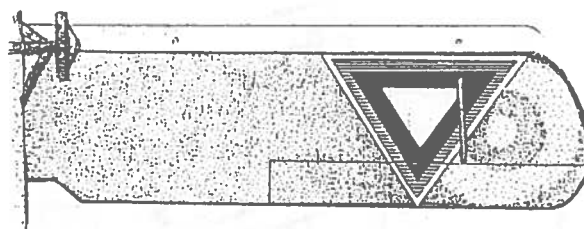
Grey forward [plywood] fuselage.

No. 30 had R.A.F. serial D660 in white in standard position & light-colored wheel discs.

[NOTE "LIFT HERE" ARROW IN WHITE]

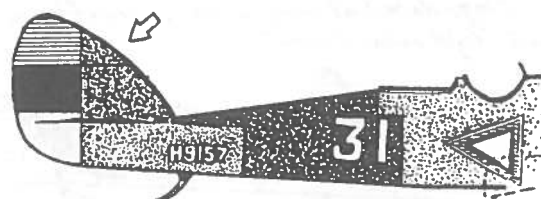
NO. 30 CRASHED FEB. 1920

Underwing view (port lower wing) showing overpainted R.A.F. roundel (lighter than background) and thin white outline to Estonian triangle, as on fuselage, on aircraft No. 30.

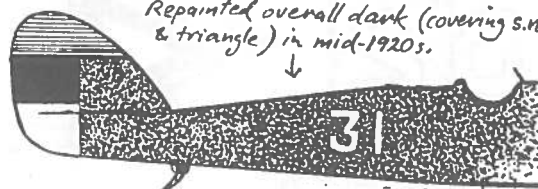


Fuselage detail (uncompleted) showing style & positions of markings: No outline to white '31', thin white outline to a differently-proportioned triangle. Former serial H9157 still carried (as shown at right).

At one time, portion of front of the rudder was painted dark



Repainted overall dark (covering s.n. & triangle) in mid-1920s.



Starboard upper wing of No. 31, with slight traces of R.A.F. roundel (darker), & no outline to triangle.

No. 31 retained light wheel discs during all the above repaintings.

T. KOPPEL / SAFO

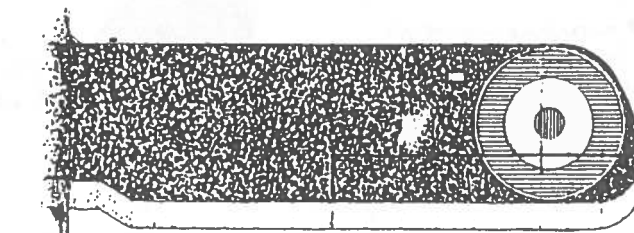
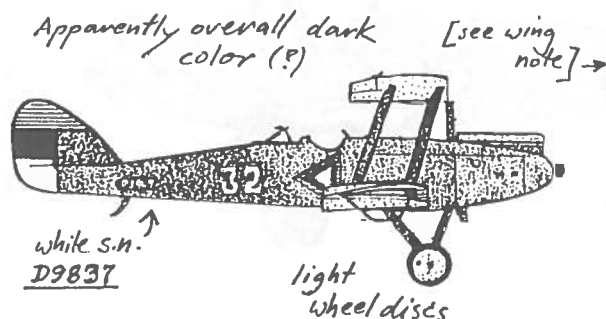
UNFINISHED PROJECTS FILE

SAFCH Research Project No. 2

ESTONIAN AIR FORCE

(Eesti Lennuvägi) PART FOUR: de Havilland D.H.9

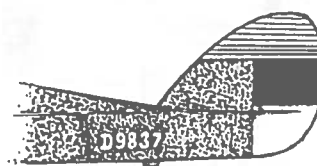
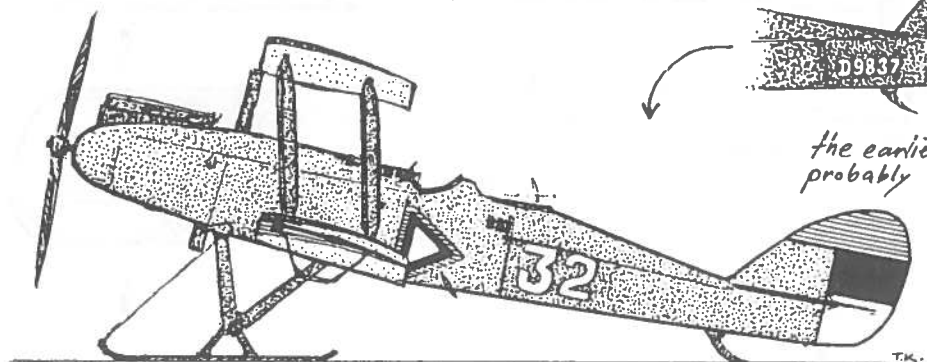
PG 3



Starboard upper wing of No. 32 in summer, 1919, flying with Estonian markings on rudder and fuselage, but with R.A.F. roundels not yet painted out on upper wings (note light areas). [No info on underwing insignia.]

LANDING GEAR VARIATIONS

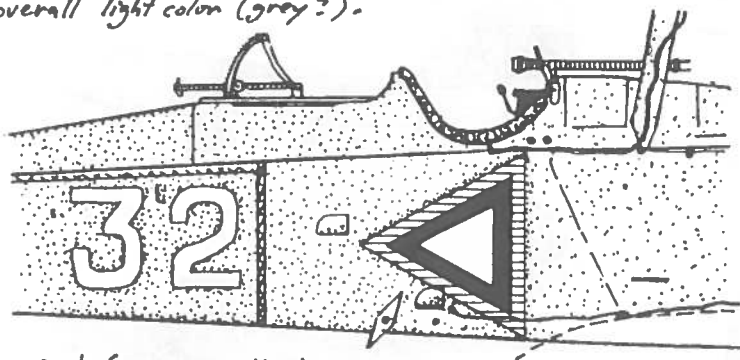
In view below, aircraft possibly repainted in an overall grey color in the early 1920s.



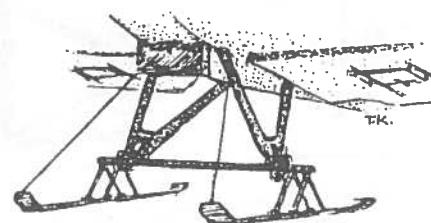
Although unconfirmed, the earlier serial [above] was probably overpainted at this time.

Perspective view showing arrangement of skis on D.H.9s.

Fuselage detail at time when aircraft was painted an overall light color (grey?).



As before, no outlining to the white numbers (in same style as on 30 & 31); but also no thin white outline to the fuselage triangle, which is closer to the later style employed.

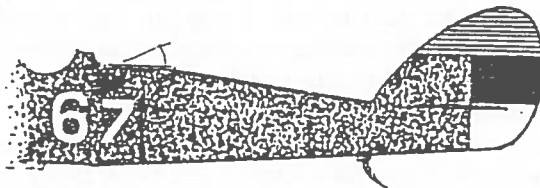


A NOTE ABOUT THE EARLY COLOR TONES:

AS THE D.H.9 FUSELAGE SURFACE WAS PLYWOOD AND CANVAS (WITH METAL COWLING), EVEN UNIFORM COLORS MIGHT APPEAR TO DIFFER ON THE VARIOUS BACKGROUNDS, ESPECIALLY IF ONLY PORTIONS WERE REPAINTED.

T. KOPPEL / SAFO

[The second batch of D.H.9s was acquired in the early 1920s]

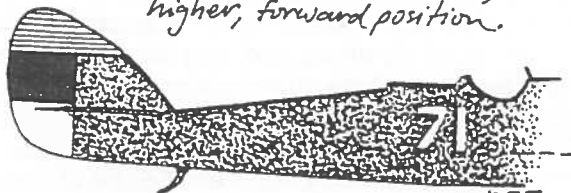


No. 67, first of new batch, freshly painted... and crashed.

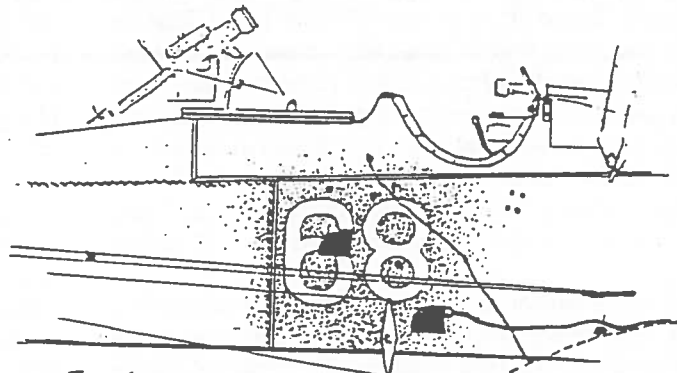
BELOW: Approximate size, positions of numbers. No. 68, larger, lower, further back (due to earlier fuselage triangle?)



No. 71 (the final E.A.F. D.H.9), smaller, higher, forward position.



By the mid-1920s, the fuselage triangle was eliminated and the large white numbers were placed further forward, though some interim variations existed. It is not clear what overall dark color was used on the D.H.9s at that time.

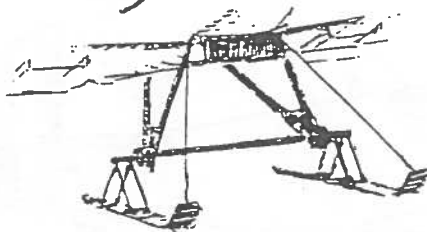


Fuselage detail (unfinished) of repainted "68" in forward position.

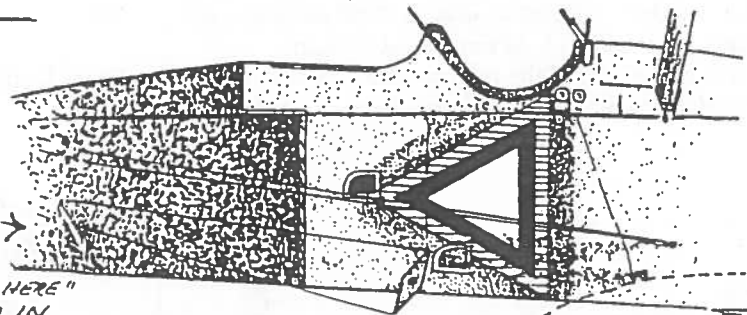
(Other aircraft in this group were Nos. 69 & 70)

The survivors of the thirteen Estonian D.H.9s served in the 1st Air "Division", until attrition took its toll. During 1919-1933, these machines carried a subtle variety of finishes in E.A.F. service... (including this unnumbered sample in transition.)

(More skiing in the Baltics.)



"LIFT HERE" ARROW IN white.



Fuselage emblem repainted, eliminating thin white outline, with varying shades of grey in the background. (Compare size, proportions with others.)

PROJECT BACKGROUND, AND ACKNOWLEDGMENTS:

SAFCH R.P. #2 was launched in the late 1960s by JIM SANDERS and eventually handed over to the current author/illustrator. With major help from the initial international team (BO KALLQVIST, GEORGE KAMP), Parts 1 & 2 of the project were published even before there was a SAFO (in JPMS/USA QUARTERLY, Spring & Fall 1972, with addenda in Fall 1973). When SAFO finally got underway, the articles were reprinted in their intended forum. With concentrated research for the current segment begun in 1971 & artwork in 1972, the second international team (FRITS GERDESSEN, PAUL BRANKR) kept coming up with additional material... and, partly due to constant revisions, this part of the project stalled. [See Footnote, pg. 10]. (As the culmination of our decade of research, FRITS went on to publish, in AIR ENTHUSIAST Eighteen, Apr.-Jul. 1982, the most detailed, definitive article, "Estonian Air Power, 1918-1945," which even included color profiles of aircraft based on SAFO drawings.)

To all these & other contributors (including former E.A.F. personnel): SINCERE THANKS!

[Of course, COLIN OWERS has also drawn E.A.F. qk: a D.H.9 in SAFO No. 11 & a CL.IX in SAFO No. 57.]

—T.KOPPEL/SAFO (1991)

ODDS 'n' SODS

Doug Dildy

AUSTRIAN "MOOSE"

In the immediate post-World War Two era, the Soviet Union attempted mightily to spread its sphere of influence into the political and military vacuum of Eastern Europe. This attempt had its "high water mark" at Austria, where the "other two" of the Big Three said "no." But not before this soon-to-be-neutral nation received its first Soviet military aviation equipment: the Yakovlev Yak-11 Moose.

Derived from the highly successful Yak-9 fighter design, the Yakovlev trainer found its way into literally every Eastern European air arm. And four of them were presented, without charge, to Austria for its infant Luftstreitkräfte. They were apparently delivered in a light grey semi-gloss finish overall, with black codes and the current red and white Austrian insignia in various positions. Known codes include: 4A*AE, 4A*AF, and 4A*AG. (Source photos only show these three aircraft. Could the "fourth Yak-11" actually have been the Yak-18 coded 4A*AD?)

These aircraft were known to have participated in maneuvers with Austrian army armor units and may have been armed with the standard Soviet 7.7mm light machine gun mounted on the upper left side of the engine cowling.

SOURCE: "Russian Aircraft", Hugo Hooftman, Aero Publishers, Inc., Fallbrook, CA, 1965, pp 123 and 124.

PERUVIAN "NORD AMERICANOS"

The 1930s were a terribly turbulent time in South America, with the Chaco War and the Leticia Conflict being prime examples of neighborhood hostilities in this unsettled period. Following such conflagration, the combatants rearmed, preparing for the next, seemingly inevitable, conflict. In 1938, true to this pattern, Peru was rearming after the Leticia Dispute, placing orders for several types of modern warplanes. One of these contracts was for seven North American NA-50 single-seat fighters.

The NA-50 was derived from the relatively new NA-16 trainer which was itself being developed into the eminently successful

AT-6 Texan/Harvard). It possessed such technological advances as an all-metal, semi-monocoque fuselage, enclosed cockpit, and retractable gear. Its armament consisted of a pair of .30 caliber machine guns mounted atop the engine cowling and the Peruvian armorers affixed two bomb racks under each wing, just out board of the landing gear for a total of up to 550lbs/250kg of ordnance.

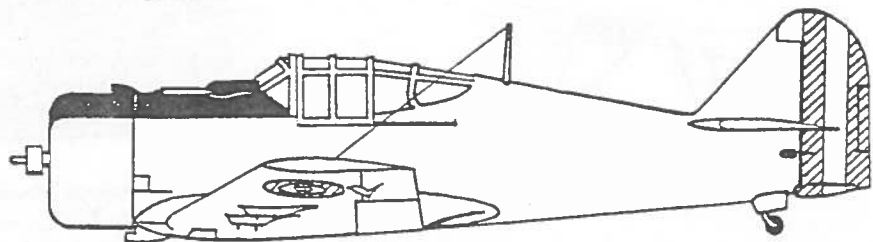
These aircraft were originally delivered in a pristinely polished bare metal finish with a large, matte black anti-glare panel, and red-white-red Peruvian rudder stripes and roundels in four positions on the tops and bottoms of the wings. Later, dark grey DF-loop antenna "football"s were added behind the cockpit and black codes were painted on the fuselage sides and under the left wing (and probably on top of the right wing). Roundels were removed from these two latter positions to make room for the serial numbers and were added to the fuselage sides ahead of the numbers.

"Sure enough," the Peruvian government soon found itself engaged in armed hostilities with another neighbor -- Ecuador -- and the NA-50s saw action in that conflict. They engaged in dive bombing and strafing in support of Peruvian troops and, reportedly, at least one was lost to Ecuadorian ground fire and another one or two in operational accidents.

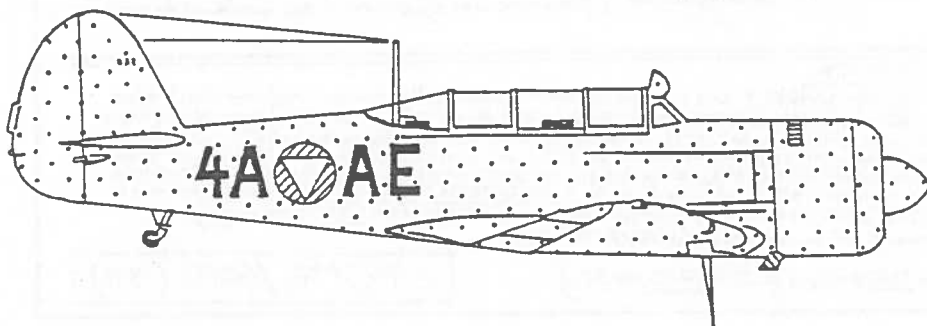
The remaining NA-50s were still in service when the large influx of U.S. Lend-Lease aid began to arrive the year after the 1941 conflict. In fact, due to the commonality of spares and the abundant supply of AT-6s during and after the war, the last Peruvian "Nord Americano" was still to be seen giving aerobatic demonstrations until the late 1950s and was not withdrawn from use until 1961. SOURCES: Air International, Vol 36/#3, March 1989, pg 145 and Michael O'Leary, "USAAF Fighters of World War Two", Poole, England, UK: Blanford Press, 1986, pp 380 to 385.

Doug Dildy (SAFCH #844), PSC Box 10162, APO NY, 09012.

PERUVIAN NA-50



AUSTRIAN YAK-11



	Gloss Light Gray		Red
	Rust Red-Brown		Bare Metal/White
	Dark Gray		Black

INCREDIBLE VICTORY

Christian Hotte

During the Franco-Thai War in the winter of 1940-41, the Armée de l'Air sent a group of five Loire 130 flyingboats of 1/CBS (Commandement des Bases du Sud = Southern Bases Command) Escadrille, under the command of Capitaine Michel, to Lake Barai on the Siem Reap near the ruins of the famous temple of Angkor Wat. This unit flew mainly at night, because, during the day, the low speed of their aircraft would have made them "sitting ducks" for the Siamese fighters. The record of this Escadrille speaks for itself: During the three months of conflict, the flew 14 mission by day and 19 by night, mostly bombing tactical targets.

On the night of 9 January, the five Loire 130s took off with orders to bomb the airfield and supply dump at Ubon, 150 km north-northeast of Siem Reap. Shortly before reaching their objective, the group was suddenly attacked by a Thai Curtiss Hawk III fighter. The flyingboat of Capitaine Michel broke formation pursued by the Thai fighter. After several firing passes which caused no damage because of the French pilot's skillful handling of his aircraft, the Hawk accidently got in front of the flyingboat. The forward gunner, Adjudant-Chef Sornet, seized the opportunity and riddled the Siamese biplane with this Darne machine

gun. The Hawk dived towards the ground and disappeared into the darkness.

Now, too far from the designated target to continue his mission, Capitaine Michel followed the Mekong River back to french-occupied Pakse city, where it alighted on the river escorted by French searchlights and anti-aircraft fire - the French defenders having mistaken the Loire 130 for a Thai aircraft. Since no damage was sustained, the flying boat refueled and took off immediately, landing back at Siem Reap at dawn.

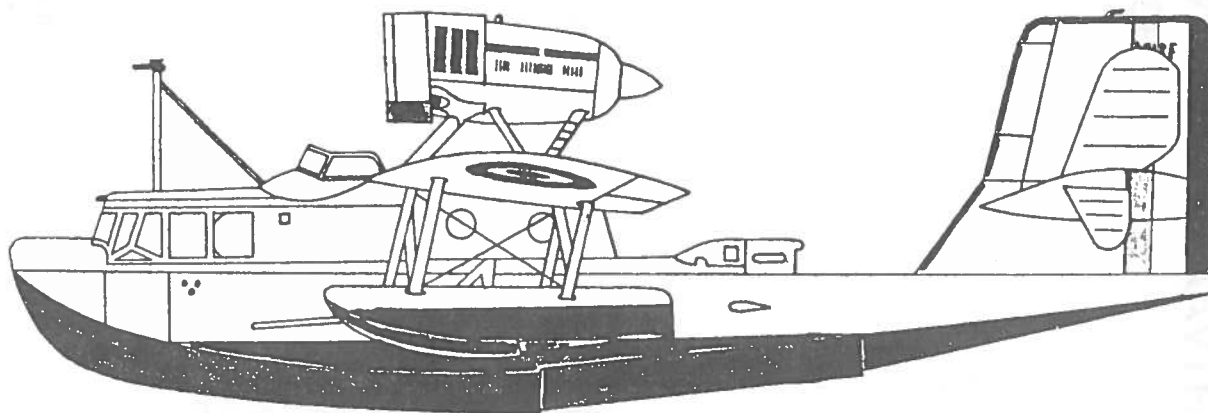
A few days later, French Intelligence substantiated this amazing "kill". The entire crew of the flyingboat was mentioned in Dispatch.

References

1. Air Enthusiast, #25.
2. L'Aviation de Vichy au Combat, Ehrengardt and Shores.
3. L'Escadrille du Calao, Barthelemy.

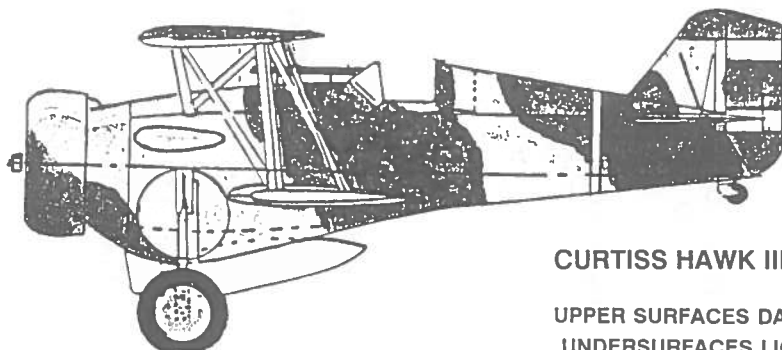
Christian Hotte (SAFCH #), 24 rue de la Picaudiere, F-44470 Carquefou, France.

THE HUNTER ...



LOIRE 130.C, ESCADSRILLE 1/CBS, ARMÉE de L'AIR

... AND ITS PREY



CURTIS HAWK III, ROYAL THAI AIR FORCE

UPPER SURFACES DARK GREEN AND LIGHT BROWN,
UNDERSURFACES LIGHT BLUE.
FUSELAGE STRIPE WHITE.
RUDDER STRIPES: RED/WHITE/BLUE/WHITE/RED

STANDARD WHITE FINISH WITH BLACK HULL.
ENGINE COUWING BARE METAL.
RUDDER STRIPES BLUE, WHITE, RED (AFT).
ROUNDELS IN FOUR POSITIONS.
SINCE AIRCRAFT BELONGED TO THE ARMÉE de l'AIR,
THERE WAS NO ANCHOR ON FIN.

1/72° # 3.91

Type	1928	1929	1930	1931	1932
Fokker C.I	41				
" C.4	23	+5	+3	44	44
" C.5d	25		-1	22	21
" C.8	1			25	30
" C.9	15	-1		1	1
" D.VII					5
" D.16	3	+1	-2	5	10
" F.7a/3m	11		-1	11	12
" S.2	27		-1	14	3
" S.4				3	6
Total	177	+7	+4	190	186

Positive number are aircraft taken on charge, negative numbers are aircraft deleted, number without a sign are aircraft on charge on 31 December.

ADDITIONS

1929	Fokker C.6	622 (built by LVA)	Fokker D.VII	271, probably 253
	" D.16	275	" D.16	276 (returned to Fokker and sold to Rumania)
	" C.I	(rebuilt with AS Lynx)		
1930	Fokker D.16	276	Fokker C.5d	318
	" C.I	(rebuilt with AS Lynx)	" C.6	618,599
1931	Fokker D.16	276-288 (276 was replacement for the original 276)	" D.VII	262
	" .5d	588 (ex C.6)	" S.4	105
	" C.9	661-665	Fokker C.4	554
1932	Fokker C.5d	330-334	" D.VII	265
			" D.16	276,279
			" S.2	87,90,92,96,98

WRITTEN OFF

1929	Fokker C.I	486,547
	" C.6	606
	" D.VII	251
	" S.4	113
1930	Fokker C.I	508
	" C.4	556

In this period, one C.5d was w/o, but C.6 599 was converted to a C.5d.
Fokker S.2 94 was converted to an ambulance in 1930-32.

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The Netherlands

Emblems of the Khmer Air Force

Ted Koppel

The Khmer Republic existed from 18 March 1970, when the Kingdom of Cambodia's Prince Sihanouk was overthrown by his National Assembly, until 17 April 1975, when the victorious Khmer Rouge established the infamous Democratic Kampuchea.

The uniform insignia in the accompanying two photographs (reduced to 41% of the original size) represent mostly organizational emblems and are from a personal "Small Air Forces Collection". In some cases, precise identification is rather elusive; and some early, erroneous assumptions led to the irregular arrangement of the original display set up for photography. Any corrections or clarification by readers would, of course, be greatly appreciated, especially additional documentation of any of these designs actually appearing on aircraft.

FULL-PAGE PHOTO, TOP ROW: Khmer Air Force branch-of-service insignia. Shoulder-sleeve title (yellow on light blue), shown above two versions of the KAF emblem [yellow national temple (Angkor Wat), wings, and three stars of the Republic on medium blue], as worn above the left breast pocket of the light blue shirt and olive drab fatigues by every member of the KAF. It also appears on the KAF flag and is not a "pilot's wing" qualification badge as some have supposed. Next is the shoulder sleeve insignie of KAF title over the KR national flag, followed by a smaller, shield-shaped version (untrimmed) which might have been worn also on the sleeve or perhaps on a soft cap. This flag was worn on the left shoulder of fatigues and some flight suits and on other uniforms when out-of-country.

SECOND ROW: The first two are unit emblems for Transport Squadrons (or Group), although numerical designations or names are not known. The winged elephant on the globe has the colors and symbols of the KR in the background; while the white bird over the globe, on a pale-blue shield with a green bend, has been seen on the side of the nose on C-47 aircraft. Next is a Reconnaissance Squadron (or Armed Recon), as described in SAFO for October 1980, p.23. Fourth shield is for an unknown unit: but as the winged tiger appears over a globe, perhaps that is an indication of a transport function as well.

THIRD ROW: The black-and-white scorpion and arrow on a red shield is the emblem of the 1st Fighter Group, as applied also to the side of the nose on T-28D "Trojan" fighter-bombers (for example, aircraft numbers 577 and 691). Pilots wore the unit patch on the upper right breast of the flight suit. The following (untrimmed) shield is the emblem of Air Base 124 (Kampong Chhnang, in Military Region 9, near the center of Cambodia); part of the text reportedly identifies Mount Aural, the highest peak in the country. Third is the insignie of the Night Attack Squadron, showing a seven-headed serpent spitting fire. This unit flew the AC-47 gunship conversions. Also untrimmed is the patch for Helicopter Squadron(s), reportedly designated Red Eagle and showing same with a white knife on a black disc. Variations, worn on breast or right sleeve, might have the background as a black shield or simply the disc shape that was so prominently painted on the fronts of most, if not all, KAF "Huey" helicopters. Aircraft numbers 268 and 519 are only two examples. (This latter craft is illustrated, incorrectly in Osprey's

THE WAR IN CAMBODIA. That UH-1B is not the gunship described and the KAF insignie is an odd variation without a blue surround. The illustration notes do mention, however, that the helicopters based in Phnom Penh, the capital, had red-painted eagles, while those in Battambang, in Military Region 3 in the north-west, had the same design in orange.) A version of the circular design also applied to the "Hueys" is shown, separately, herewith.

FOURTH ROW: The first patch apparently is not military, being worn instead by Airport Security Police. Below and to the right of it is a round design associated with C-123 "Provider" supply-drop missions. The shield above it is the emblem of the KAF Training Center. The baby bird breaking out of its egg symbolizes the pilot trainees, who wore this design on the right sleeves of their light-blue shirts. Next is the AU-24 "Stallion" aircraft patch, also described in the Oct. 1980 SAFO. A published photo shows personnel wearing this on the upper breast of the flight suits and perhaps the right sleeve of fatigues. The Armed Recon unit insignie is not visible in that shot. (The last one most likely isn't KAF, although reputedly manufactured in the Phnom Penh area. Not visible here is the OV-10A designation of the "Bronco" aircraft, as well as the word RUSTIC, which sounds like the code-name of a military project.)

FIFTH ROW: The first one shows USAF Detachment One, 56th Special Operations Wing (with its "Every man a tiger" motto), which was based at Udorn Air Base in Thailand for training Thai and Lao T-28 pilots. Khmer students were also sent there; and as this particular patch supposedly originated in Cambodia, perhaps some KAF graduates may have worn this as a sort of "honorary" badge. The next three, in the USAF-style shield design but bearing the KR flag, seem to be aircraft patches for C-123 crews rather than unit emblems. The winged torch on two of them suggests a training function. But even the dagger is appropriate, as in the last chaotic days of the war (or at least that phase of the never-ending war) the "Providers" were used as improvised bombers.

SECOND PHOTO, FIRST ROW: Thought by some to represent KAF HQ, this most likely is the emblem of the Meteorological branch. The next one, showing two fire-breathing snakes in the center, has been described as Air Base "Ream". It has elements such as the gold KAF emblem and wreath (all on blue) in common the AF branch insignia below, so it's possible it could stand for something else. The next shield, representing AF Security, has the Cambodian numeral "1" at the top. Whether this means 1st unit, or Military Region 1, is mere conjecture at this point. The fourth emblem is for Air Base 122 (shown by the numerals at the bottom), located in Battambang, approximately 160 miles north-west of Phnom Penh. (The other lettering reportedly translates as "Air Force" and "Ream".)

SECOND and THIRD ROWS: This series shows the following KAF branches, in sequence: Technical, Air Base Security, Communications, Maintenance (or ground transportation?), Medical, POL (fuel), and Engineering.

FOURTH ROW: Groupings of miscellaneous insignia, starting with various sizes of KAF cap badges, in metal and cloth; metal



Ted Koppel/SAFC 1989



T. Koppel
SAFC '89

version of the KAF emblem worn on breast of uniform jacket; shoulder-strap slip-on rank for 2nd Lieutenant; and two T-28 mission patches (1,000 and 500, accidentally positioned upside down), which were discussed in SAFO #43 July 1987, p.83).

Most of the above identifications came from a privately published booklet, *MILITARY INSIGNIA OF THE KHMER REPUBLIC 1970-1975*, by Cecil B. Smyth, Jr. Reference was also made to the aforementioned Osprey title: *Men-at-Arms Series No.209: THE WAR IN CAMBODIA 1970-1975*, by Conboy & Bowra (London, 1989). Personal clippings files were consulted as well.

For those interested in this subject and, more specifically, the Republic of Viet Nam Air Force c.1955-1975, portions of the "Small Air Forces Collection" appear in color photography (as part of seven pages of emblems and badges) in *FLYING DRAGONS: The South Vietnamese Air Force*, by Robert C. Mikesch (Osprey, London, 1988). Of course, the entire VNAF, aircraft, airfields, markings & codes, history, etc. is thoroughly covered in the 223-page hardcover volume. Highly recommended, even for merely small air force observers.

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